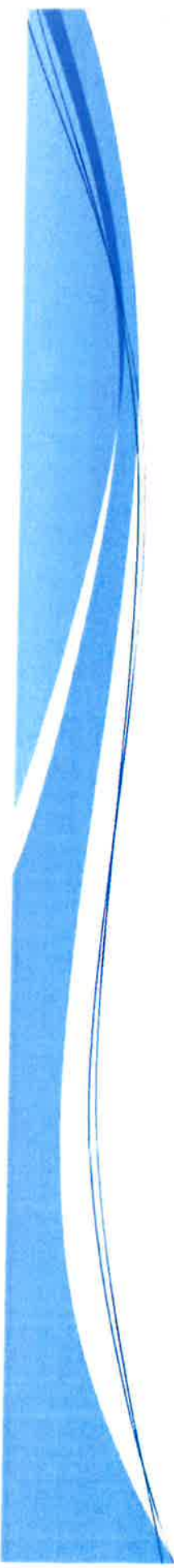


KOLS

En presentasjon fra KOLS-gruppa i Stjørdal kommune



Inhalasjonsmedikamenter

- Blått – korttidsvirkende β_2 -stimulator, med rask effekt. Anfallsmedisin
- Grønt – langtidsvirkende β_2 -stimulator. Forebyggende, men har også relativt rask effekt.
- Brunt – steroider. Forebyggende
- Fiolett/rødt – blandingsmedisin, langtidsvirkende β_2 -stimulator og steroider
- Grønt – Atrovent, antikolinergika

Inhalasjonsmedisiner

Deles i tre hovedgrupper:

1. Åpnermedisiner: Virker på luftrørmuskulaturen og åpner luftveiene. Øker slimtransporten.

Farge	Type	Salgsnavn	Effekt	Virker	Bivirkning	Tas når
Bla Grå	Kortids- Virkning. (β2-stim.)	Ventoline Bricanyl Salbutamol Aeromir Biventol	Uvider Bronkiene Åpner Luftveiene	Raskt, innen 5 minutter.	- skjelven på hånden - uro - hjertebank	- ved behov - før anstr. - ved anfall
Grønn	Kortids- virkning	Alixvent		Raskt, innen 20-30 min	hjerterytme	
Grønn	Langtids- virkning	Sedavert		Utdelt av 20- 40 min. Virker 12 timer	muskelsmerter, hodepine, hjerterytme	Tas fast
Bla/grønn	Kortids- virkning	Avvent		innen 1- minutter virker innen 12 timer	skjelven på hånden hjerterytme hjerterytme	Tas fast, og ved behov
Bla/grønn	Langtids- virkning	Alixvent		Effekt ca 30 min virker minst 24 timer	hjerterytme, forstoppelse, allergisk reak, arytmi, angina	Tas fast, kan brukes sammen med Avvent
		Avvent			Muskelsmerter, hodepine, hjerterytme	

2. Forebyggende medisiner: Har betennelsesdempende effekt.

Farge	Type	Salgsnavn	Effekt	Virker	Bivirkninger	Tas når
Brun/ orånge	Kortison til inhalasjon	Beeotide Pulmicort Flutide Beclomet AeroBee Alvesco	Lokal, betennelses- dempende effekt	Full effekt etter ca. 10 dager	- soppinfeksjon i munnen - hves stempne (obs skylning) - i mindre grad	Tas fast i dosen (kan ev økes i dårlige perioder, i samråd med lege) x i daglig

Sykehuset Innlandet	Inhalasjonsmedisiner	HaB05/21-08
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3. Kombinasjonsmedisin: Har en langtidsvirkende åpnerfunksjon, samt betennelsesdempende effekt

Farge	Type	Salgsnavn	Effekt	Virker	Bivirkning	Tas når
Lilla	Komb av steroid og β_2 -agonist	Seretide Inuvair	Som Flutide	og	Serevent	Fast
Rød		Symbicort Symbicort forte	Som Pulmicort	og	Oxis	Fast, evt. flere ganger døg.

Kortisonpreparater:

	Kortison, som tabl. eller injeksjon.	Prednison Prednisolon Medrol Solu Cortef Solu Medrol	Roer ned overføl. slimhinner ↓	Virker etter noen timer ved akutt behandling	- vektøkning, hevelse - økt uro og matlyst - magekatarr - tynn hud, hudblød. - beinskjørhet - grønn stær - økt blodsukker	Tas fast, evt i kurer.
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Børnelegesenteret

Kvalitetssikrede svar om astma, allergi og eksem hos barn

Hovedside | Om Børnelegesenteret | Spørsmål | Svar | Hovedside | Om Børnelegesenteret | Spørsmål | Svar |

Svarside

Svarside >> Astma >> Behandling / medikamenter

Astma
Infeksjonstilstand /
barnastma
Svinn / fluens / eggulfeil
Uspasifisert
Behandling /
medikamenter
Heute / natthoste
Anstrengelsesudløst
Allergi
Eksem

Svarside

Dato 15/10/2010

Kategori Astma

Underkategori Behandling / medikamenter

Tittel Postoppsett

Språk

Besvart av

Svar

Hei, Vi er ganske sikre på at du er under behandling med astmamedisin eller diagraf hos dere. I sommeren har det ikke vært behov for medisin og vi håpet astmaen var blitt borte. Den siste uken har hun borte igjen konstant, spesielt om natten. Begynner med feber og vi gikk i gang med astmamedisin igjen. Det er ikke så mye. Var hun fastlegen i morges som fort ut at det ikke var som bakteide og mola vi burde øke dosen av den orange sprayen. Hun har nå hostet i 5 dager og vært hjemme fra barnehagen hele uken. Vi var en gang på helsestasjon hvor hun også hostet slik og da fikk hun "saltspray" (eller hva det var) via et pustapparat og dette virket. Hun fikk også noen tabletter. Disse ville fastlegen gi i morges men da hadde ikke nye flere igjen, dette er tydeligvis ikke noe vi kan få på resept. Kan man få ut et slikt apparat med det de gir på helsestasjon? Det er et slikt apparat med det de gir på helsestasjon hvor man foler seg helt hjulpet ut en liten stakkert hoster til hun koster opp.

Med vennlig hilsen
Frode Hjeltnes

For

Info

Ansvar

Relaterte artikler

Hva er astma?

Astma er en luftveislidelse.

Infeksjoner

En oversikt over de vanligste luftveisinfeksjonene hos barn.

Børnelegesenteret

Ansvarlig redaktør

Hans Henrik Odland,

spesialist Ole Elvén,

medisinsk ansvarlig Gisle Rod.

Utviklet av AstmaNet.no

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Hovedside | Om Børnelegesenteret | Spørsmål | Svar | Barneskolen | Barneskolen | Profesjon



Publisert på (<http://www.klara-klok.no>)

[Hjem](#) > Spørsmål

Spørsmål

hei!

hva er forskjellen på disse 3 astma-sprayene? :

- Blå innhalator
- Rød innhalator
- Brun innhalator

?

?

?

Hilsen person på 16 år

Kroppen Kropp og helse Medikamenter Innsendt av anonym , 12.04.2012 - 12:55

Svar:

Hel.

Den hurtigvirkende inhalatoren er blå. Langtidsvirkende Steroidinhalatorer er ofte brune men også røde, beige og oransje.

Hilsen legen.

Besvart 18.04.2012 - 15:01

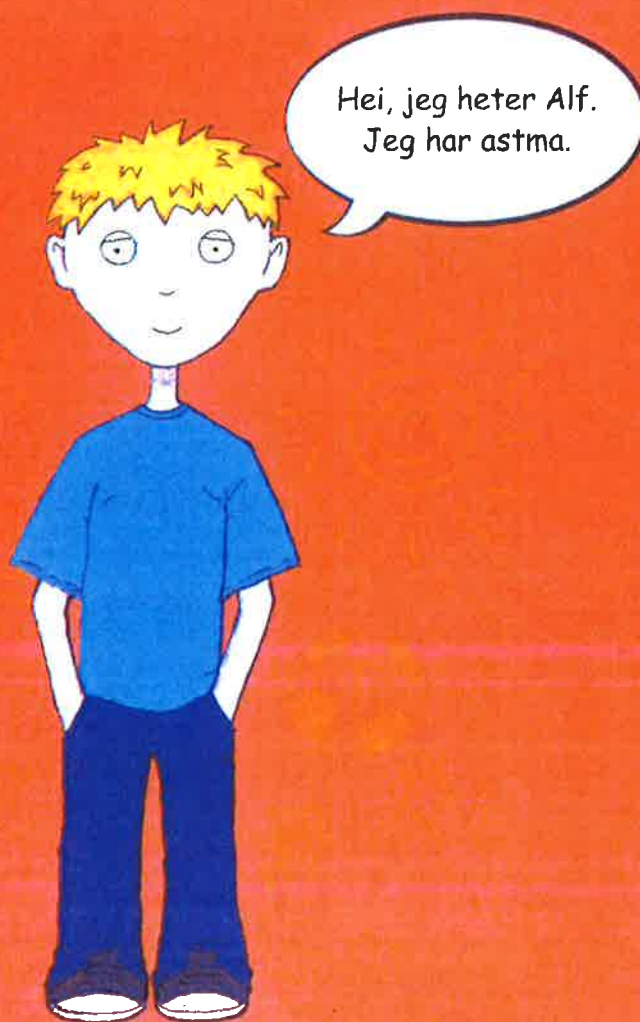
[Skriv ut](#) [Gi tilbakemelding](#) Hva synes du om denne siden?

URL-adresse: <http://www.klara-klok.no/spoersmaal/461215>

LESLEY MILLS

Hva kan jeg fortelle deg om astma?

En guide for venner, familie og fagpersoner



Illustrert av Rosy Salaman



KOMMUNEFORLAGET

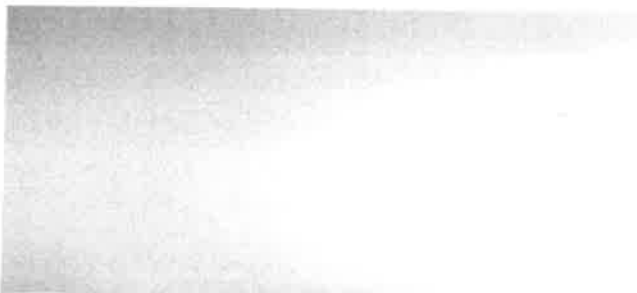
)
Mange prøver å hjelpe ved å si ting som at jeg burde legge meg ned. Men da ville jeg ikke klare å puste i det hele tatt. Jeg må sitte oppreist.

Av og til var det så ille at jeg ikke hadde pust til å snakke. Da ble jeg redd og hev etter pusten, og noen ganger følte jeg at det ikke var mulig å puste. Da var det bare den blå inhalatoren min som hjalp, men jeg visste at jeg måtte bruke inhalasjonskammeret også, så medisinen kom inn i luftveiene og virket ordentlig. Når medisinen var tatt, visste jeg at det fort ville bli bedre.

Nå som jeg bruker den oransje inhalatoren morgen og kveld, får jeg ikke astmaanfall mer, i hvert fall mye sjeldnere. Det er kjempefint! (Mer om inhalatorer på sidene 21–25.)

Mange forter seg videre og later som om de ikke har sett meg. Andre igjen sier de vil ringe etter ambulanse med en gang. Da takker jeg dem og sier at det ikke er nødvendig.

Jeg tror mange blir usikre fordi de ikke vet hva astma egentlig er, eller hva man skal gjøre. Jeg trenger bare å sitte rolig og bruke den blå sprayen min. Men det er hyggelig om dere sitter sammen med meg og snakker rolig med meg så jeg ikke blir redd. Det er bare fint. Jeg tror nok mange gjerne vil hjelpe, men så vet de ikke hva de skal gjøre.



Det øverste luftrøret i figuren er en normal luftvei, mens det nederste er en innsnevret trang luftvei hvor det er vanskelig for luften å slippe gjennom. Kroppen gjør dette for å beskytte seg, men resultatet er at det blir vanskelig å puste, og man føler seg sammensnevret i brystet slik at man får disse hveselydene og begynner å hoste. Astma er forskjellig for ulike mennesker. For noen er hoste det eneste symptomet. Andre trenger den blå inhalatoren bare når de er forkjølet, mens atter andre bruker den bare før de trener.

Hvis du bruker den oransje inhalatoren regelmessig, men likevel trenger den blå hver dag, så vil helsepersonell sørge for å sjekke at du bruker inhalatoren riktig så du får nytte av medisinen.

Astma forsvinner ikke, men fra man er ca. 14–20 år ser man ofte remisjon (at den forsvinner for en periode).



Sykepleier Linda forklarte meg forskjellen mellom den blå og den oransje inhalatoren. Den blå inneholder en korttidsvirkende beta-agonist som virker ved å få musklene rundt luftrørene til å slappe av, så de åpner seg og luften lettere kommer igjennom. Den er kjent som hurtigvirkende medisin. Den brukes i nødstilfelle og når man føler seg kortpustet, hoster eller hveser eller før trening. Du trenger ikke å bruke den blå inhalatoren hvis du ikke har behov for den, men det er viktig alltid å ha den med.

Hvis du regelmessig bruker den blå inhalatoren mer enn tre ganger i uken, eller hoster om natten, burde du også ha en inhalator med kortison, som en forebyggende medisin. Den roer ned irritasjoner, sårhet og hevelser i luftveiene og forebygger dermed tilfeller der man føler seg kortpustet med hvesing og hosting. Ved å bruke inhalatoren som inneholder kortison regelmessig morgen og kveld, reduserer man behovet for den blå.

Generelt er det fem viktige ting å huske på:

- 1 Ta ett eller to støt av den hurtigvirkende (vanligvis den blå) inhalatoren.
- 2 Sitt ned og prøv å puste rolig og jevnt.
- 3 Hvis det ikke hjelper, ta to støt av den hurtigvirkende inhalatoren hvert andre minutt (ett støt om gangen, rist imellom). Du kan ta opptil ti støt.
- 4 Føler du deg fortsatt ikke bedre etter dette, eller er urolig og redd, ring etter ambulanse.
- 5 Hvis ambulansen ikke kommer innen 10 minutter, og du fortsatt føler deg uvel, gjenta trinn 3.

Ytterligere informasjon om astma⁹

Det tok ca. sju dager fra jeg begynte med den oransje inhalatoren til jeg merket en effekt. Siden det tar litt tid for medisinen å «bygge seg opp», må den tas så ofte som man har avtalt med legen. Normalt er det to ganger om dagen – en gang om morgenen før skolen og så igjen om kvelden før man legger seg.

Forskning har vist at det ikke hjelper å bruke den oransje oftere, så det er ikke nødvendig å ta med seg den på skolen.

Mange foreldre blir urolige når de ser ordet «kortison» eller «steroider», og lurer på om det vil ha innvirkning på barnets vekst. De blander kanskje den lille mengden man får i seg fra den oransje inhalatoren, med steroidtabletter som gis til personer med veldig alvorlig astma, eller med anabole steroider, som er farligere og kraftigere og tas for å få store muskler. Den bitte lille mengden steroider i den oransje inhalatoren demper bare sårhet og opphovning i luftveiene, og det er veldig viktig at den tas når den skal.

Det finnes mange typer inhalatorer, og legen din vil gi råd og veiledning om hvilken som passer best for deg. Det er vanlig at unge mennesker bruker en inhalator som utløser riktig dose spray eller pulver både for den hurtigvirkende medisinen og den med kortison i. Det er viktig at du får

9. Informasjon fra *The National Respiratory Training Centre, Warwick*

- Kald luft og temperaturendringer.
- Forkjølelser og virusinfeksjoner.
- Fuktige hus.
- Diett – noen typer mat og drikke.
- Støv.
- Følelsesmessige svingninger og påkjenninger.
- Trening/sport.
- Røyk og avgasser.
- Høysnue – kan forverre astma.
- Høy luftfuktighet.
- Husstøvmidd – 80 % av barn med astma reagerer på midd.
- Latter.
- Legemidler – aspirin (ikke anbefalt barn under 12 år), betablokkere og ikke-steroid antiinflammatoriske midler.
- Parfyme og produkter med lukt.
- Pollen:
 - pollen fra trær – slutten av mars til begynnelsen av juni
 - gresspollen – juni og juli
 - burot – slutten av juli, august
 - muggsoppsporer – når været er varmt og fuktig, mest aktuelt i juli og august.
- Lyn og tordenvær.
- Sigaretttrøyk.
- Eksos og forurensing fra trafikken.

Her er noen eksempler på hva du kan gjøre for å hjelpe meg¹¹:

¹¹ Se også Anbefalinger fra NAAF på hvordan innrede og rengjøre barnerommet: <http://www.naaf.no/no/subsites/fersking/hjemmet/barnerommet/>

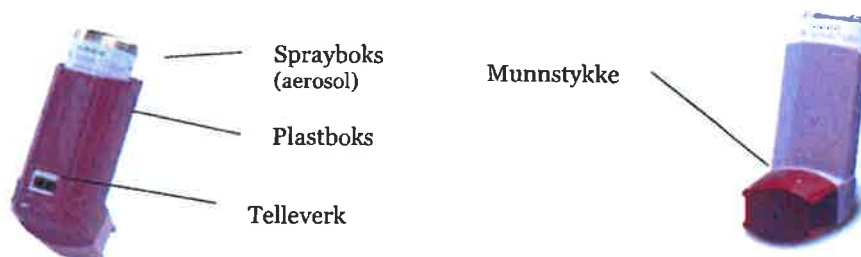


Inhalasjonsspray

Inhalasjonsspray kalles også for aerosol, og brukes fortrinnsvis sammen med et inhalasjonskammer.

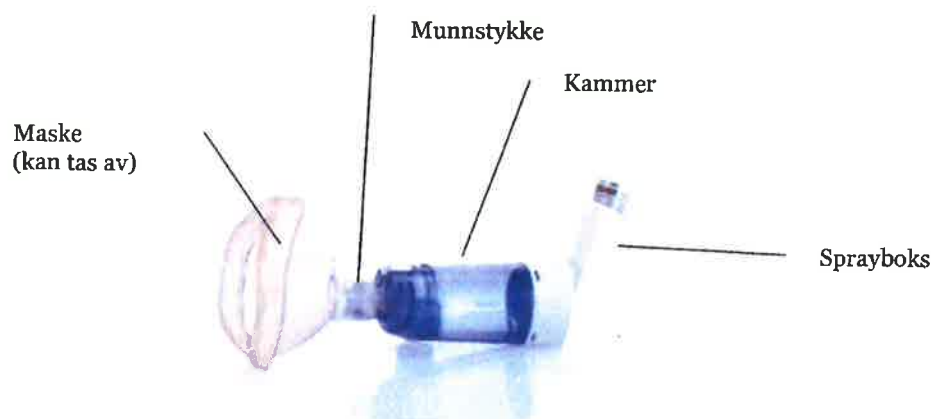
Bruk av spray med inhalasjonskammer

- Medisinen i en inhalasjonsspray er lagret i en liten metallflaske, som er satt ned i en liten plastbeholder med et munnstykke (se figur 1).
- Plastbeholderen har forskjellige fargekoder som viser hva slags medisin du tar. Se fargekoden under navnet på medisinen din.
- De fleste sprayer inneholder 100-200 doser. Antall doser vil stå både på flasken og esken.
- Dersom sprayeren ikke har telleverk, bør du notere dato for åpning. Rist på sprayeren innimellom for å se om den begynner å bli tom.
- Bruk av inhalasjonsspray rett i munnen krever ekstra god teknikk for å få medisinen ned i lungene. Det aller beste er derfor å ta medisinen via et kammer.
- Det finnes en type spray som utløses automatisk når du trekker inn pusten, denne har egen bruksanvisning (se Autohaler).



Figur 1 Spray uten kammer

Et kammer er en plastboks på størrelse med en liten brusboks (se figur 2). Den har et hull i den ene enden som passer for inhalatoren og et munnstykke i den andre enden. Det kan settes en maske på munnstykket. Du sprayer medisinen i kammeret og puster deretter inn medisinen. Du puster flere ganger. Hvis kammeret blir skittent, kan det vaskes i varmt såpevann. Ta ut sprayboksen først.



Figur 2 Spray med kammer og maske

Versjon 1. juli 2013. Informasjonen revideres innen juli 2016.

Informasjonen er utarbeidet av en tverrfaglig gruppe ved Oslo Universitetssykehus. Legemidler kan bli brukt på ulik måte hos ulike pasienter. Skrivene er derfor veiledende og det er viktig at du kontakter lege eller apotek ved usikkerhet om barnets legemiddelbruk. Tilbakemeldinger på innholdet i disse brosjyrene kan rettes til redaksjonskomiteen i Nasjonalt kompetansenettverk for legemidler til barn, legemidletilbarn@helse-bergen.no

Bruksanvisning og eksempler på kammer:

OptiChamber Diamond:

1. Fjern beskyttelseshetten.
2. Sett sprayen i enden av kammeret.
3. Rist sprayen kraftig 4-5 ganger mens du holder de to delene godt sammen.
4. Sett munnstykket til munnen og press leppene rundt så det blir helt tett. Dersom det er vanskelig å bruke munnstykke, skal du bruke maske. Det er viktig at masken er helt tett. Det finnes flere størrelser av masken.
5. Trykk på sprayen. Pust rolig 3-6 ganger. Kammeret lager en plystrelyd om du puster inn for raskt eller hardt.
6. Dersom du skal ta flere doser ("puff"), gjenta punktene 3-5 for hver dose.



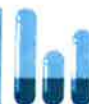
Rengjøring

Rengjør kammeret en gang i uken, eller oftere ved tilsøling.

- Demonter kammeret og vask delene i varmt såpevann i ett minutt.
- Masken vaskes i to minutter.
- Skyll godt i rennende vann, og lufttørk alle delene hver for seg.
- Kammeret (ikke masken) kan rengjøres i oppvaskmaskinen, men da holder den ikke så lenge.
- Bruk aldri børste.

Versjon 1. juli 2013. Informasjonen revideres innen juli 2016.

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Bruksanvisning og eksempler på kammer:

AeroChamber

AeroChamber har fastsittende masker i ulike størrelser, eventuelt munnstykke.

Inhalasjonskammer med maske

Inhalasjonskammer uten maske



Bruksanvisning

1. Fjern beskyttelseshetten.
2. Sett sprayen i kammeret.
3. Rist sprayen kraftig 4-5 ganger mens du holder de to delene godt sammen.
4. Sett munnstykket til munnen, press leppene rundt så det blir helt tett. Dersom det er vanskelig å bruke munnstykke, skal du bruke maske. Det er viktig at denne også er tett.
5. Trykk på sprayen. Pust rolig 6-10 ganger.
6. Dersom du skal ta flere doser ("puff"), gjenta punktene 3-5 for hver dose.

Rengjøring:

Rengjør AeroChamber en gang i uken, eller oftere ved tilsøling.

- Ta av den fargede ringen, og behold masken på.
- Delene legges i lunkent såpevann i ca. 15 minutter. Rør noen ganger forsiktig i vannet.
- Skyll delene i rennende vann. La delene lufttørke i oppreist stilling.

For mer informasjon om bruk av legemidler og andre inhalasjonsapparater, se www.legemidlertilbarn.no/legemiddelskriv.

Versjon 1. juli 2013. Informasjonen revideres innen juli 2016.

Informasjonen er utarbeidet av en tverrfaglig gruppe ved Oslo Universitetssykehus. Legemidler kan bli brukt på ulik måte hos ulike pasienter. Skrivene er derfor veiledende og det er viktig at du kontakter lege eller apotek ved usikkerhet om barnets legemiddelbruk. Tilbakemeldinger på innholdet i disse brosjyrene kan rettes til redaksjonskomiteen i Nasjonalt kompetansenettverk for legemidler til barn, legemidlertilbarn@helse-bergen.no

Astmamedicin



Denne brochure handler om **medicin** til behandling af **astma**. En medicin, der også bliver brugt mod astmatisk bronkitis hos børn og til **behandling** af voksne med **lunget sygdommen KOL**.

HVAD ER ASTMA?

Astma er en sygdom i luftvejene, der kan starte når som helst i livet – oftest som barn, men også som voksen eller ældre. Astma kan være arveligt, men hvad der udløser sygdommen hos nogle og ikke hos andre, ved man ikke med sikkerhed. Halvdelen af alle, der har astma, har også allergi.

Ved astma er der en irritations-tilstand i den slimhinde, som beklæder dine luftveje indvendigt. Slimhinden bliver rød, hæver op og danner sejt slim. Denne tilstand kaldes inflammation. Samtidig trækker musklerne omkring lungerne sig sammen så luftvejene snævres ind, og det bliver sværere at trække vejret.

Symptomerne på astma kan være hoste, åndenød samt hvæsende og pibende vejtrækning. De kan udløses af noget, der irriterer dine luftveje f.eks. tobaksrøg, stærke

dufte og kold luft eller noget, du er allergisk over for f.eks pollen, husstøvmider eller dyr. Ved at undgå disse ting, kan du mindske eller helt undgå dine astmasymptomer.



ASTMAMEDICIN

Astmamedicin bidrager til, at du har gode muligheder for at leve et normalt liv med astma. Medicinen fås både til inhalation og som tabletter eller mikstur. Inhalationsmedicin er bedst, fordi den kommer direkte ned i dine lunger, hvor den virker hurtigt og giver få bivirkninger.

Tre grupper af astmamedicin

Luftvejsudvidende

Får musklerne i luftvejene til at slappe af, så luftvejene udvides. Farvekoden på inhalatoren er blå eller turkisgrøn.

Forebyggende

Virker ved at mindske inflammationen i luftvejene. Farvekoden på inhalatoren er brun eller orange.

Kombinationer

Forebyggende medicin og en langtidsvirkende luftvejsudvidende medicin samlet i én inhalator. Farvekoden på inhalatoren er rød eller lilla.

Lægen beslutter, hvilken medicin du skal have, det afhænger blandt andet af sværhedsgraden af din astma.

Inhalation af luftvejsudvidende og forebyggende medicin er den grundlæggende behandling af astma både hos børn og voksne.

INHALATIONSBEHANDLING

Det er vigtigt, at din inhalationsteknik er korrekt, så medicinen kommer tilstrækkelig langt ned i luftvejene og derved giver den bedste virkning. Der findes forskellige inhalatorer, og det er vigtigt at finde en type, du bedst kan anvende. Det kræver en grundig instruktion i brugen af din inhalator, og at du jævnligt får tjekket din inhalationsteknik.

Få instruktion i brug af din inhalator hos lægen, speciallægen eller på apoteket.

Lad lægen, speciallægen eller apoteket tjekke din inhalationsteknik med jævne mellemrum.

LUFTVEJSUDVIDENDE MEDICIN

Luftvejsudvidende medicin hedder også beta-2-agonister og virker ved at få musklerne omkring luft-rørene til at slappe af, så luftve-jene udvides og vejtrækningen derved lettes. Der findes 2 typer:

Akutvirkende

Den anvendes ved behov, når du får symptomer og kaldes derfor også for anfaldsmedicin. Den virker hurtigt. Farvekoden på inhalatoren er blå. Hvis du har brug for denne type medicin mere end ca. 1 gang om ugen, skal du kontakte din læge, da din astmabehandling måske skal justeres. Hvis du tager anfaldsmedicin inden fysisk aktivitet tæller det ikke med i regnskabet.

Langtidsvirkende

Denne type medicin anvendes forebyggende mod astma, som supplement til den forebyg-gende behandling. Farvekoden på inhalatoren er turkisgrøn.

Bivirkninger

Risikoen for, at du får bivirkninger af at inhalere luftvejsudvidende medicin, er lille. Din mund og dit svælg kan dog blive irriteret. Det hjælper, hvis du skyller munden, når du har taget din medicin. Nogle kan opleve en forbigående rysten på hænderne, hjertebanken og lidt indre uro. Det er imidlertid usfarligt.



FOREBYGGENDE MEDICIN

Forebyggende medicin indeholder binyrebarkhormon og kaldes også steroider. De virker ved at dæmpe den irritation, der er i slimhinden i dine luftveje. De gør slimhinden mere modstandsdygtig overfor det, der irriterer den. Farvekoden på inhalatoren er brun eller orange.

Du kan ikke umiddelbart mærke, at du tager medicinen. Du skal alligevel inhalere den hver dag, med mindre du har aftalt andet med din læge. Også selvom du ikke har astmasymptomer. Der kan gå op til adskillige uger, før du har fuld effekt af behandlingen.

Bivirkninger

Nogle er bange for bivirkninger af inhalation af steroider. Men det mest almindelige er, at du kan blive hæs eller få svamp i munden. Andre bivirkninger er meget sjældne. Svamp kan du forebygge ved at skylle munden med vand og spytte ud eller børste tænder, når du har

inhaleret. Hvis børn får steroider i spacer med ansigtsmaske, skal deres ansigt vaskes efter, at de har inhaleret – også for at undgå svamp.

KOMBINATIONER

Kombinationsmedicin til behandling af astma indeholder både luftvejsudvidende og forebyggende medicin. Lægemidlerne virker ved at dæmpe irritationen i slimhinden i luftvejene. De får også musklerne omkring luftvejene til at slappe af, så luftvejene udvides og vejtrækningen derved lettes. Farvekoden på inhalatoren er rød eller lilla.

Kombinationspræparater er forebyggende medicin, og du skal derfor inhalere dem hver dag efter aftale med lægen.

Bivirkninger

Du får sjældent alvorlige bivirkninger af at inhalere kombinationsmedicin. Din mund og svælg kan dog blive irriteret, og du kan blive hæs og få svamp i munden. Det kan du forebygge ved at skylle munden med vand eller børste tænder, når du har inhaleret. Forbigående rysten på hænderne, hjertebanken og lidt indre uro kan endvidere forekomme ved inhalation af kombinationspræparater. Dette er imidlertid uførligt og går over efter nogen tids behandling.

ANDEN ASTMAMEDICIN

I de tilfælde, hvor du trods inhalationsbehandling med forebyggende og luftvejsudvidende medicin stadig har astmasymptomer, kan anvendelse af andre typer astmamedicin komme på tale. Vil du vide mere om disse andre typer medicin, så spørg din læge, speciallæge eller på apoteket.

Gode råd om astmamedicin

Tag din medicin som lægen eller speciallæge har anbefalet – ofte skal du også tage den forebyggende medicin i symptomfrie perioder.

Skyl munden med vand og spyt vandet ud eller børst tænder når du har inhaleret din medicin for at undgå svamp, hæshed eller irritationer i mund og svælg.

Hav altid din anfaldsmedicin med.

Hold øje med hvornår din inhalator er tom.

Lad lægen, speciallægen eller apoteket tjekke din inhalationsteknik med jævne mellemrum.



HVAD KAN DU SELV GØRE?

Det er vigtigt, at du tager din medicin, som lægen har anbefalet, og at du bruger den rigtige inhalationsteknik, når du anvender din inhalator. Din inhalationsteknik bør tjekkes med jævne mellemrum. Det kan apoteket hjælpe dig med.

Du skal også undlade at ryge og undgå andet, som kan forværre din sygdom.

Der kan være perioder, hvor din astma er ekstra slem. Det kan betyde, at du skal have justeret din medicin. Du bør derfor jævnligt få kontrolleret din astma hos lægen. Du kan selv følge med i din astma ved at måle din lungefunktion med et peak-flow-meter og føre en astmadagbog.

Motion er godt, også for mennesker med astma. Motion kan ikke bedre din astma eller din lungefunktion, men jo bedre din kondition er, jo

mere kan du træne uden anstrengheds-udløste symptomer. Det er muligt at forebygge symptomer i forbindelse med motion – tal med lægen om, hvad du kan gøre.

Søg læge

Hvis din medicin ikke virker så godt, som den plejer.

Hvis du får behov for mere anfaldsmedicin.

Hvis du hyppigere får anfald.

Hvis dit peak-flow falder.

Hvis du får bivirkninger af medicinen.

Hvis dit barn med astma har svært ved at trække vejret eller får feber og hurtig, stønnende vejtrækning.

Du kan søge yderligere information på www.apoteket.dk eller på www.astma-allergi.dk.

GRAVIDE OG AMMENDE

Er du gravid eller ammer du, skal du tale med lægen om din astmamedicin. I langt de fleste tilfælde kan medicin til inhalation anvendes under graviditet. Du kan i de fleste tilfælde også sagtens amme dit barn.

Det er vigtigt, at din astma også bliver behandlet under din graviditet, da astmaanfald kan være skadeligt for fosteret.



ASTMATISK BRONKITIS

Astmasymptomer hos småbørn kaldes astmatisk bronkitis, når barnet samtidig er forkølet eller har en luftvejsinfektion. Børn, der udsættes for tobaksrøg, har en meget større risiko for at udvikle astmatisk bronkitis. Nogle børn med astmatisk bronkitis får senere konstateret astma.

Behandling af børn afhænger af deres symptomer. Astmatisk bronkitis med lette og kortvarige symptomer, kræver ikke nødvendigvis behandling. Astmatisk bronkitis behandles ofte med luftvejsudvidende medicin i korte perioder – enten som mikstur, som barnet skal drikke eller som spray, som barnet skal inhalere via en spacer. Inhalation foretrækkes, da den virker bedre og giver færre bivirkninger.

Hyppige og svære episoder af astmatisk bronkitis behandles som astma – det vil sige med luftvejsudvidende medicin og forebyggende steroid, som også inhaleres via spacer.

Gode råd ved astmatisk bronkitis

Undgå, at barnet bliver udsat for tobaksrøg. Der bør ikke ryges i barnets hjem.

Forebyg luftvejsinfektioner – god håndhygiejne i barnets hverdag er et simpelt råd, der virker.

Giv barnet medicinen, som lægen har anbefalet.

Skyl barnets mund med vand eller børst tænder efter, at barnet har inhaleret medicinen for at undgå svamp eller irritationer i mund og svelg.

Hvis barnet inhalerer forebyggende medicin via spacer med ansigtsmaske, skal barnets ansigt vaskes med en fugtig klud for at undgå svamp omkring munden.

Hold øje med hvornår barnets inhalator er tom.

KRONISK OBSTRUKTIV LUNGESYGDOM (KOL)

Astma~~m~~edicin benyttes også til kronisk obstruktiv lungesygdom, også kaldet KOL eller rygerlunger. Dette på trods af at det er to helt forskellige sygdomme. Vil du vide mere om medicin til KOL, så spørg din læge eller på apoteket.

Kontakt din læge, hvis du er ryger og har luftvejsproblemer; svært ved at få luft, hoster eller har sejt slim.



apotek

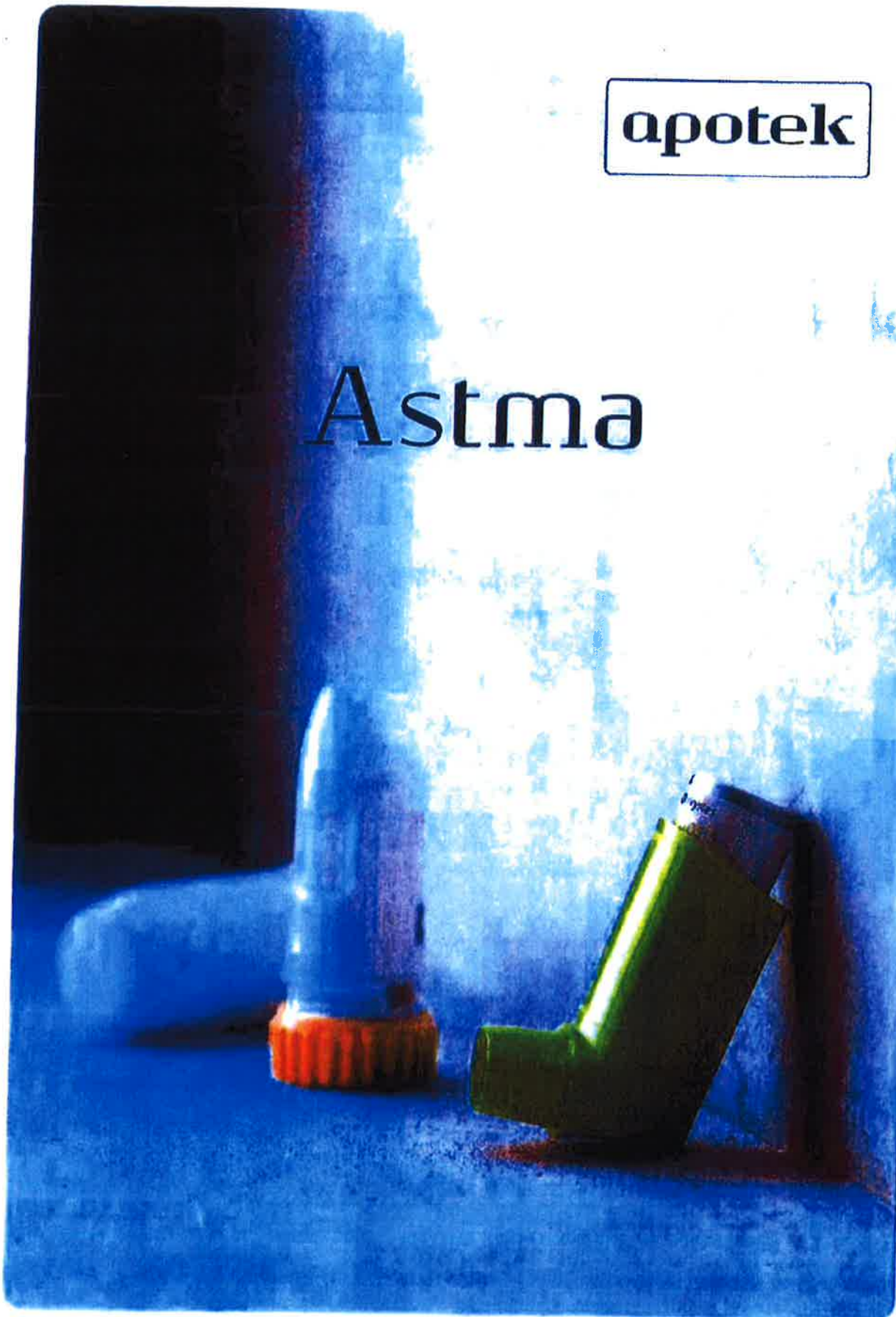
www.apoteket.dk



**Denne brochure er udarbejdet
i samarbejde med
Astma-Allergiforbundet, www.astma-allergi.dk**

apotek

Astma



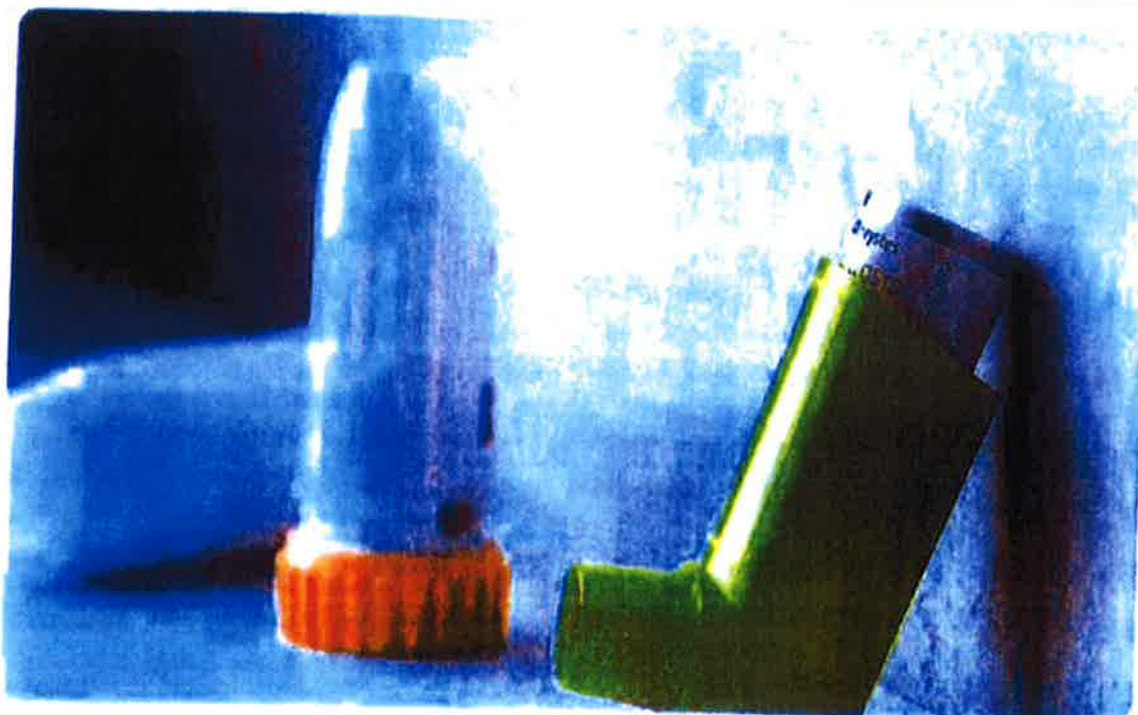
ASTMA

Astma er en sygdom i luftvejene, der kan starte når som helst i livet – oftest som barn, men også som voksen eller ældre. Astma kan være arveligt, men hvad der udløser sygdommen hos nogle og ikke hos andre, ved man ikke med sikkerhed. Nogle astmatikere har også allergi.

Ved astma er der en irritationstilstand i den slimhinde, som beklæder dine luftveje. Slimhinden bliver rød, hæver op og danner sejt slim. Denne tilstand kaldes inflammation. Samtidig trækker musklerne omkring lungerne sig sammen, så luftvejene snævres ind, og det bliver sværere at trække vejret.

Symptomerne på astma kan være hoste, åndenød samt hvæsende og pibende vejtrækning. De kan udløses af noget, der irriterer dine luftveje, for eksempel tobaksrøg, stærke dufte og kold luft, eller noget, du er allergisk over for, for eksempel pollen eller husstøvmider. Ved at undgå disse ting kan du mindske eller undgå dine astmasymptomer.

Hvis børn har astmasymptomer og samtidig er forkølede eller har en luftvejsinfektion, kaldes det astmatisk bronkitis. I denne brochure kan du læse mere om både astma og astmatisk bronkitis.



ASTMAMEDICIN

Astmamedicin bidrager til, at du har gode muligheder for at leve et normalt liv med astma.

Medicin til inhalation er det, der oftest anvendes. Den kommer direkte ned i dine lunger, hvor den skal virke, og giver få bivirkninger.

Medicinen kan dog også fås som tabletter eller en mikstur, der drikkes.

Det er din læge, der beslutter, hvilken medicin du skal have, og det afhænger blandt andet af sværhedsgraden af din astma.

Inhalation af luftvejsudvidende og forebyggende medicin er den grundlæggende behandling af astma hos både børn og voksne.

Det er vigtigt, at din inhalationsteknik er korrekt, så medicinen kommer tilstrækkelig langt ned i luftvejene og giver den bedste virkning. Der findes forskellige inhalatorer, og det er vigtigt at finde den type, du bedst kan anvende. At få den optimale effekt af din medicin kræver en grundig instruktion i brugen af din inhalator, og at du jævnligt får tjekket din inhalationsteknik. Begge dele kan ske enten hos lægen, hos speciallægen eller på apoteket.

Der er sjældent bivirkninger ved at bruge inhalationsmedicin. Du

kan dog opleve irritation i mund og svælg. Bruger du luftvejsudvidende medicin, kan du komme til at ryste lidt, og du kan få en smule hjertebanken. Begge dele er helt ufarligt. Bruger du forebyggende medicin, kan du få svamp i munden. Svamp kan undgås ved at skylle munden med vand og spytte ud eller børste tænder, når du har inhaleret din medicin.

I de tilfælde, hvor du trods inhalationsbehandling stadig har astmasymptomer, kan det komme på tale at bruge andre typer medicin. Spørg din læge eller på apoteket, hvis du vil vide mere om disse typer.

TJEK PÅ INHALATION

- o Hvis du ikke inhalerer din medicin korrekt, får du ikke fuld effekt af den, da den ikke når hen, hvor den skal virke.
- o Apoteket kan hjælpe dig med et tjek af din inhalationsteknik og vise dig, hvordan du bruger din inhalator bedst muligt.
- o 'Tjek på inhalation' foregår på apoteket og er gratis.

FORSKELLIG MEDICIN HAR FORSKELLIG FARVE

Emballagen på astmamedicin har forskellig farve.

Luftvejsudvidende medicin kaldes også beta-2-agonister. Den får musklerne i luftvejene til at slappe af, så luftvejene udvides. Luftvejsudvidende medicin kan være både hurtigtvirkende og langtidsvirkende. Hurtigtvirkende anvendes ved behov, når du får symptomer. Langtidsvirkende medicin anvendes hver dag, også selv om du ikke har symptomer. Farvekoden på inhalatoren til luftvejsudvidende medicin er **blå** eller **turkisgrøn**.

Forebyggende medicin indeholder binyrebarkhormon, også kaldet

steroider. Medicinen virker ved at mindske inflammationen i luftvejene. Du skal inhalere den hver dag, medmindre du har aftalt andet med lægen – også selv om du ikke har symptomer. Der kan gå op til adskillige uger, før du har fuld effekt af behandlingen. Farvekoden på inhalatoren til forebyggende medicin er **brun** eller **orange**.

Kombinationsmedicin er forebyggende medicin og langtidsvirkende luftvejsudvidende medicin samlet i én inhalator. Du skal inhalere den hver dag, også selv om du ikke har symptomer. Farvekoden på inhalatoren til kombinationsmedicin er **rød** eller **lilla**.

GODT AT HUSKE ...



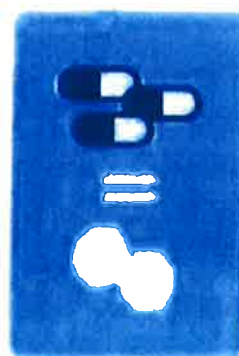
Har du svært ved at huske din medicin, kan du tilmelde dig gratis huske-sms på apoteket.dk.



Spørg personalet på apoteket, hvordan du skal tage din medicin.



Læs på indlægssedlen, hvordan din medicin skal opbevares.



Er du i fast behandling, kan du opleve, at din medicin skifter navn. Indhold og virkning er uændrede.

ASTMATISK BRONKITIS

Når små børn (0-3 år) har astma-symptomer, og de samtidig er forkølede eller har en luftvejsinfektion, kaldes det astmatisk bronkitis. Det er forskelligt, hvor hårdt det enkelte barn bliver ramt af astmatisk bronkitis. Nogle børn oplever kun få og milde episoder. Andre børn har hyppigere og voldsommere symptomer, og hos dem er risikoen for senere at få konstateret astma større.

Hvis dit barn udsættes for tobaksrøg, har det større risiko for at udvikle astmatisk bronkitis. Det er derfor vigtigt, at du ikke udsætter dit barn for tobaksrøg.

Behandlingen af børn med astmatisk bronkitis afhænger af sympto-

merne. Er der kun lette og kortvarende symptomer i forbindelse med en infektionssygdom, er det ikke altid nødvendigt med medicinsk behandling.

Hyppigere og voldsommere symptomer behandles ofte med lægemidler, der indeholder beta-2-agonister. Det kan være som en væske, barnet skal drikke eller en spray til inhalation. Medicinen virker ved at afslappe musklerne omkring luftvejene, så der igen bliver god plads. Ved svære symptomer kan forebyggende lægemidler også anvendes.

På apoteket kan du få instruktion i, hvordan du hjælper dit barn med at tage sin inhalationsmedicin korrekt.

... OG SPØRG APOTEKET, HVIS DU ER I TVIVL



Undlad at ændre i din medicin uden aftale med lægen.



Husk at tjekke, om din medicin er trafikfarlig. Det står på indlægssedlen.



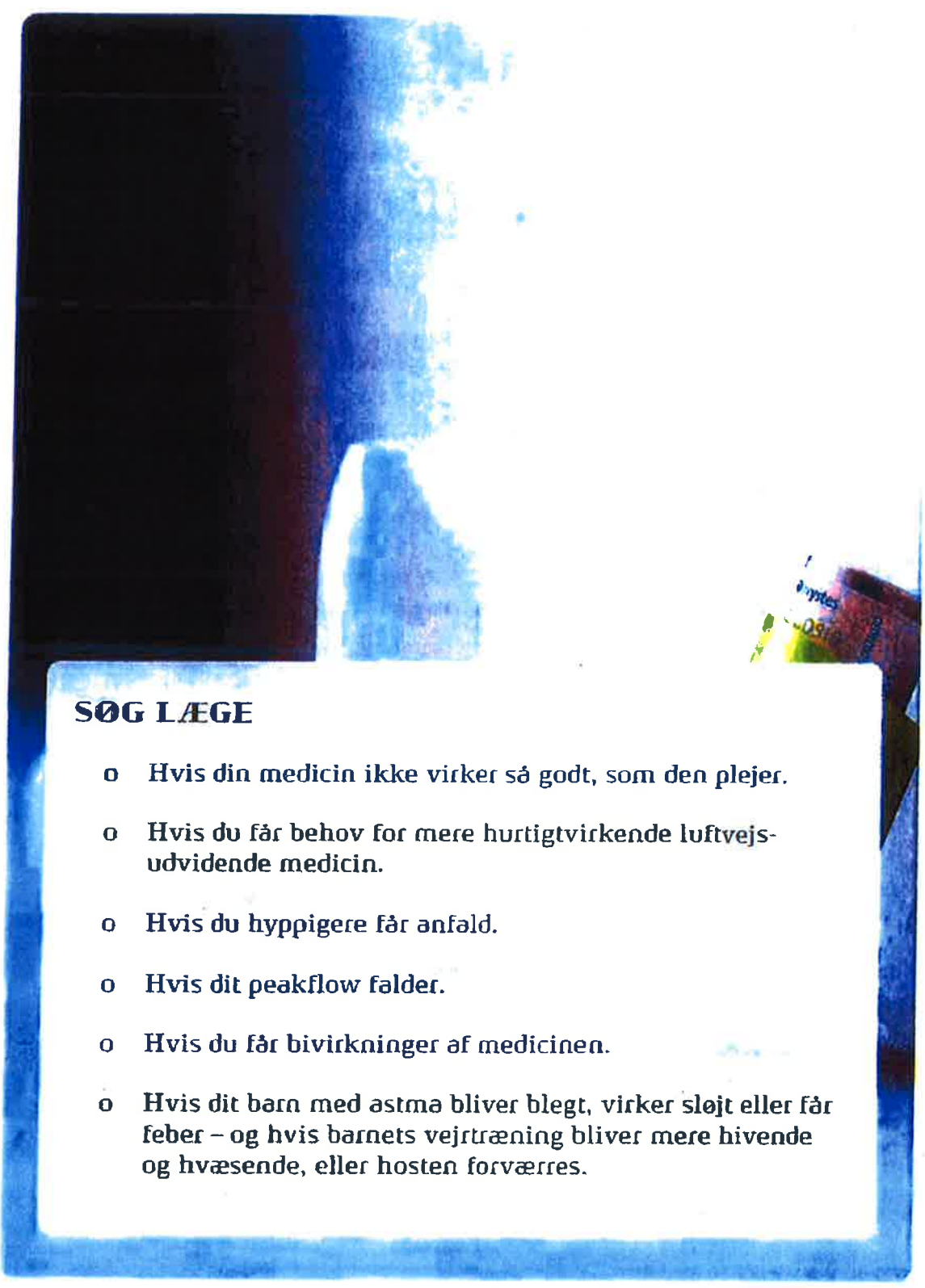
Apoteket beregner automatisk dit medicintilskud.



Fortæl altid personalet på apoteket, hvis du tager flere forskellige slags medicin eller kosttilskud.

DET KAN DU SELV GØRE

- o Tag din medicin, som lægen eller speciallægen har anbefalet – husk, at du skal tage den langtidsvirkende luftvejsudvidende medicin, kombinationsmedicin og den forebyggende medicin hver dag – også selv om du ikke har symptomer.
- o Skyl munden med vand, og spyt vandet ud, eller børst tænder, når du har inhaleret din medicin, for at undgå svamp, hæshed eller irritationer i mund og svælg.
- o Hav altid din hurtigtvirkende luftvejsudvidende medicin med.
- o Hold øje med, hvornår din eller dit barns inhalator er tom.
- o Lad lægen, speciallægen eller apoteket tjekke din inhalationsteknik med jævne mellemrum.
- o Undlad at ryge, og undgå de ting, som du har lagt mærke til forværrer din sygdom.
- o Få jævnligt din astma kontrolleret hos lægen, så din medicin kan blive justeret i forhold til dine symptomer.
- o Følg med i din astma ved at måle din lungefunktion med et peakflowmeter og ved at føre en astmadagbog.
- o Dyrk motion. Motion er godt, også for mennesker med astma. Motion kan ikke bedre din astma eller din lungefunktion, men jo bedre din kondition er, jo mere kan du træne uden anstrengelsesudløste symptomer.
- o Tal med din læge om, hvordan du kan dyrke motion uden gener.
- o Er du gravid eller ammende, skal du tale med lægen om din astmamedicin. I langt de fleste tilfælde kan medicin til inhalation anvendes under graviditet, og når du ammer dit barn, og det er vigtigt, at din astma også bliver behandlet under din graviditet.



SØG LÆGE

- o Hvis din medicin ikke virker så godt, som den plejer.
- o Hvis du får behov for mere hurtigtvirkende luftvejsudvidende medicin.
- o Hvis du hyppigere får anfald.
- o Hvis dit peakflow falder.
- o Hvis du får bivirkninger af medicinen.
- o Hvis dit barn med astma bliver blegt, virker sløjt eller får feber – og hvis barnets vejtræning bliver mere hivende og hvæsende, eller hosten forværres.



apotek

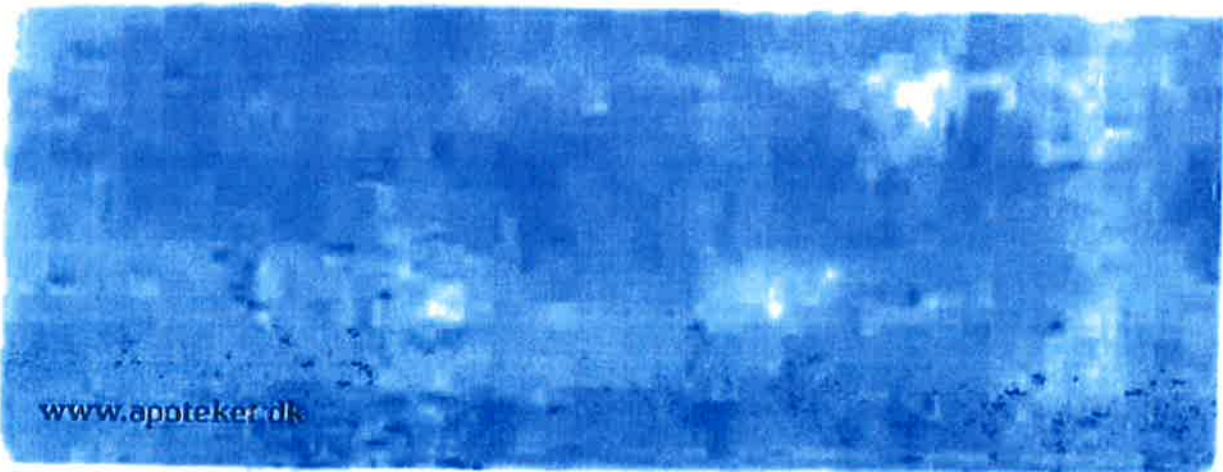
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PÅ APOTEKET

På apoteket kan du få hjælp til og rådgivning om alle typer medicin. Alt personale er faguddannet og kan blandt andet svare på spørgsmål om recept- og håndkøbsmedicin, bivirkninger og medicin til børn og fortælle hvad du skal være opmærksom på, hvis du for eksempel tager flere forskellige typer me-

dicin samtidig. Apoteket er stedet, hvor du køber din medicin – uanset om du går ned på det fysiske apotek, eller du e-handler over nettet. Apotekets e-handel foregår i apoteket.dk's webshop.

Læs mere på apoteket.dk, eller spørg på apoteket.



www.apoteker.dk



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ASTMA

Artikl-oversigt Brevkasse Debet

Astma og graviditet

af Charlotte Sørensen, overlæge, lektor, dr.med., speciallæge i medicinsk lungesygeplejerske

0 Læs 0 Tweet 0 1

Astma og Graviditet

Op mod 10 procent af alle gravide kvinder i Danmark har astma. Graviditet påvirker ofte graden af ens astma og dermed også kontrollen af astmaen. Nogle gravide vil helst undgå at tage astma-medicin, men det er sikrere at blive behandlet med medicin under graviditeten end at have mange astma-symptomer.

Hvad betyder astmaen for fosteret?

Fosteret er afhængigt af, at der er tilstrækkeligt med ilt i dit blod. Svære astma-angreb kan medføre iltmangel hos fosteret, og det vigtigste mål med behandling af astma i graviditeten er derfor bedst mulig astma-kontrol.

Hvad betyder graviditeten for din astma?

Omkring 1/3 af gravide med astma oplever forværring i løbet af graviditeten, oftest i 4. til 6. måned og får derfor behov for mere medicin. Det er derfor meget vigtigt, at du er meget opmærksom på, om din astma forværres, når du er gravid.

Du skal specielt være opmærksom på:

- Natlige symptomer, også hoste
- Hyppigere tilfælde af pibende vejtrækning
- Mere åndenød
- Hoste og slim fra lungerne
- Større behov for anfallsmedicin

Hvis du oplever forværring, har du behov for kontrol hos lægen. Også selvom du ikke mærker ændring i symptomerne, er det en god idé at gå hyppigere til lægen, for eksempel hver 4. til 8. uge. Ved kontrollen hos lægen skal du have målt din lungefunktion. Det er også en god idé, hvis du selv kontrollerer din astma ved at måle peak-flow, registrere symptomer og forbrug af anfallsmedicin.

Hvad betyder astmaen for din graviditet?

Astmatikere med god astma-kontrol har ikke flere komplikationer i forbindelse med graviditet og fødsel end gravide, der ikke har astma. Hvis du inden graviditeten havde hyppige astma-symptomer, skal du være ekstra opmærksom på, om astmaen forværres i graviditeten.

Behandles astma anderledes under graviditet?

Nej, astma behandles ikke anderledes under graviditet. Men generelt bør du som gravid altid rådføre dig med en læge inden brug af medicin.

Er astma-medicinen farlig for fosteret?

Nej, astma-medicin er ikke farlig for fosteret. Undersøgelser viser, at frygten for, at astma-medicinen kan medføre komplikationer og misdannelser hos fosteret, er ubegrundet. Og samtidig ved vi nu, at selv hos gravide med meget svær astma kan tilstrækkelig forebyggende behandling og tæt lægekontakt forebygge komplikationer.

Medicinsk behandling af astma under graviditet

De fleste voksne med astma har behov for fast forebyggende behandling. Målet med behandling af astma – ikke mindst under graviditet – er god astma-kontrol.

God astma-kontrol i graviditeten omfatter:

- Ingen dagsymptomer (maksimalt 10 gange per uge)
- Ingen symptomer om natten, inklusiv hoste
- Ingen begrænsninger i aktivitetsniveau
- Bedst mulig lungefunktion
- Ingen – om muligt – akutte forværringer
- Mindst mulig risiko for bivirkninger til behandlingen



SYGDOMME FRA A-A

KUN PÅ DET BOO STAV SYGDOMMEN STARTER MED



➤ Søg på symptomer ➤ Tjek din medicin
 ➤ Spørg lægen ➤ Spørg i debatten

NYT OM SYGDOM OG SUNHED HVER UGE

➤ Få Medicinens nyhedsbrev
 - helt gratis!



TIL DIG FRA NETDOKTOR



- Så vidt muligt sikre normal udvikling af fosteret
- Så vidt muligt sikre fødsel af sundt og velkøbt barn

De fleste lægemidler, der anvendes til behandling af astma, inhaleres via en pulverinhalator eller en spray med åndingsbeholder. Det betyder, at medicinen kommer direkte ned i luftvejene, hvor den skal virke, og samtidig kommer kun en meget lille del af medicinen med blodbanen rundt i kroppen. Risikoen for bivirkninger til behandlingen er derfor meget lille.

Anfaldsmedicin/Behovsmedicin (farvekoder: blå)

Anfaldsmedicinen virker afslappende på de små muskler omkring luftvejene. Det mærkes ved, at symptomerne åndres/forsvinder, efterst liden for et par minutter. Du skal tage anfaldsmedicinen, hvis du får symptomer, for eksempel åndedrætsbesvær, svære vejrstrækninger eller hoste. Anfaldsmedicinen skal ikke bruges i fast daglig dosering. Hvis du har behov for anfaldsmedicin mere end to gange om ugen, har du kontaktet en læge med henblik på at få justeret den forebyggende behandling.

Anfaldsmedicin kan uden problemer anvendes under graviditet og amning.

Forebyggende medicin

Forebyggende astma-medicin skal tages hver dag, også når du føler dig rask og ikke har astma-symptomer. Der findes flere typer af forebyggende astma-medicin:

Inhaleret binyrebarkhormon (farvekoder: brun eller orange):

Forebyggende behandling af astma betyder behandling med inhaleret binyrebarkhormon. Inhaleret binyrebarkhormon dæmper irritationstilstanden i luftvejenes slimhinde. Det mærkes ved, at astma-symptomerne aftager – eller forsvinder. Lungefunktion og livskvalitet forbedres, og samtidig bliver risikoen for astma-angreb meget mindre. Inhaleret binyrebarkhormon hjælper ikke ved akutte astma-symptomer, men er den mest effektive type af lægemidler til forebyggende behandling af astma. I alle ambulante doser har medicinen meget få og oftest ubetydelige bivirkninger. Hyppigst er bøjse (svamp) i munden og hæshed. Meget sjældent kan disse bivirkninger undgås ved grundig tandbørstning og mundskylning efter hver inhalation af medicinen.

Inhaleret binyrebarkhormon kan uden problemer anvendes under graviditet og amning.

Langtidsvirkende luftvejsudvidende medicin (farvekoder: grøn eller turkis):

Hvis du fortsat ikke har god astma-kontrol trods behandling med inhaleret binyrebarkhormon, kan behandlingen suppleres med langtidsvirkende luftvejsudvidende medicin. Langtidsvirkende luftvejsudvidende medicin virker ligesom den blå medicin, men virkningen varer i mindst 12 timer. Medicinen tages morgen og aften – sammen med inhaleret binyrebarkhormon – og har derved effekt hele døgnet.

Når behandling med inhaleret binyrebarkhormon fortsættes, kan langtidsvirkende luftvejsudvidende medicin anvendes under graviditet, fødsel og amning.

Kombinationspræparater (farvekoder: rød eller lilla):

Hvis du har god effekt på astma-kontrollen af inhaleret binyrebarkhormon og langtidsvirkende luftvejsudvidende medicin, kan behandlingen ændres til en inhalator, der indeholder begge lægemidler. Kombinationspræparaterne er smidige til at opnå god kontrol med astmaen og vælges derfor meget ofte, hvis behandling med inhaleret binyrebarkhormon ikke er tilstrækkelig.

Kombinationspræparater (indeholdende inhaleret binyrebarkhormon og langtidsvirkende luftvejsudvidende medicin) kan anvendes under graviditet, fødsel og amning.

Leukotrien-antagonister (tabletter):

Leukotrien-antagonister virker både luftvejsudvidende og dæmpende på irritationstilstanden i lungerne. Tabletterne anvendes som supplement til behandling med inhaleret binyrebarkhormon sammen med eller i stedet for den langtidsvirkende luftvejsudvidende medicin.

Leukotrien-antagonister kan – om nødvendigt – anvendes under graviditet, fødsel og amning.

Binyrebarkhormontabletter:

Hvis astma-symptomerne bliver meget alvorlige, kan det være nødvendigt at behandle med binyrebarkhormontabletter, for eksempel prednison. Tabletterne gives – så vidt muligt – kortvarigt, for eksempel som en 10-dages 'kur'. En kur med binyrebarkhormontabletter giver sjældent anledning til alvorlige bivirkninger, men der er risiko for psykisk smerte, hovedpine, øget appetit og væksthæmning i kroppen. Længere behandling med binyrebarkhormontabletter (måneder) giver muligvis en øget risiko for svingerkeforøgning og for tidlig fødsel, men det er væsentligt at afgøre, om det skyldes behandlingen eller den meget svære astma.

Akutte forværringer i astma hos gravide behandles med en 'kur' med binyrebarkhormontabletter.

Asthma, graviditet og rygning

Tobaksrygning er – også for fosteret – meget sundhedsstadeligt. Når man har astma er der – om muligt – endnu flere gode grunde til ikke at ryge. Rygning medfører således astma-kræft, indsnævrede luftveje og større behov for medicin. Desuden er den forebyggende effekt af inhaleret binyrebarkhormon



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- Hvorfor får vi allergi?
- Mere antibiotika giver ikke mindre - dårlige bakterier overlever

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meget dårligere, hvis du samtidig ryger. Passiv rygning har også negativ effekt på symptomer og medicinske behov.

Hvis du ryger, har astma og er gravid, bør du derfor søge hjælp til rygestop, for eksempel hos din læge eller jordemoder.

Asthma, fødsel og amning

Gravide med astma kan – som gravide uden astma – føde normalt, da der kun meget sjældent ses astma-angreb i relation til selve fødslen. Amning anbefales – også når mor har astma – og der skal ikke tages særlige forholdsregler.

Vil du vide mere?

Hvis du vil vide mere om astma, henviser vi til [Asthma-Allergi Danmarks hjemmeside](#).



Asthma-Allergi Danmark

Læs mere om ASTMA

- [Asthma hos børn](#)
- [Asthma hos unge](#)
- [Akut astma behandling](#)
- [Fortsat astma behandling](#)
- [SE OVERSIGT OVER ALLE ARTIKLER OM ASTMA](#)

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Aktuel medicinfortegnelse for astmamedicin, april 2014

Akutvirkende medicin

STOFGRUPPE	ADMINISTRATION	Aktivt stof	Produktnavn
KORTTIDSVIRKENDE B2-AGONISTER (Farvekode: BLÅ)	INHALATION	Salbutamol	Airmit (s+Autohaler) Airealt (s) Buvamol Easyhaler (p) Salamol (s) Ventolin (p) Ventoline (s+p)
		Terbutalin	Bricanyl (p) Terbasmin Turbohaler (p)
	MIKSTUR/ ORAL OPLØSNING	Salbutamol	Ventoline
		Terbutalin	Bricanyl
	INHALATIONSVÆSKE	Salbutamol	Salbutamol Ventoline
		Terbutalin	Bricanyl

Forebyggende medicin

STOFGRUPPE	ADMINISTRATION	Aktivt stof	Produktnavn
STEROID (Farvekode: BRUN)	INHALATION	Budesonid	Giona Easyhaler (p) Millonide (p) Pulmicort Turbohaler (p) Spirocort (p)
		Ciclesonid	Alvesco (s)
		Fluticasonpropionat	Flixotide (s+p) Flutide (p)
		Mometasonfuroat	Asmanex Twisthaler (p)
		Beclometasonpropionat	Aerbec N (2) AeroBec (s) Beclomet Easyhaler (p)
	TABLET	Methylprednisolon	Medrol
		Prednisolon	Prednisolon
		Prednison	Prednison
	INHALATIONSVÆSKE	Budesonid	Budesonid Spirocort Budovar
LANGTIDSVIRKENDE B2-AGONISTER (Farvekode: GRØN)	INHALATION	Formoterol	Delnil (p) Foradil (s+p) Formo Easyhaler (p) Oxez Turbohaler (p) Oxis Turbohaler (p)
		Indacaterol	HirobrizBreezhaler (p) Onbrez Breezhaler (p)
		Salmeterol	Serevent (s+p)
	TABLET	Bambuterol	Bambec Oxeol
		Salbutamol	Ventoline (er ikke depottablet)
		Terbutalin	Bricanyl Retard
LEUKOTRIEN- ANTAGONISTER	TABLET/ TYGGETABLET/	Montelukast	Montelukast Singulair



Astma-Allergi
Danmark

Kombinationsmedicin

STOFGRUPPE	ADMINISTRATION	Aktivt stof	Produkt navn
STEROID + LANGTIDSVIRKENDE (Farvekoda: RØD)	INHALATION	Budesonid + Formoterol	Axione Turbohaler (p) Rilast Turbohaler (p) Sineptic (p) Symbicort Turbohaler (p)
		Beclometasondipropionat + Formoterol	Innovair (s) Fostair (s)
		Fluticasonepropionat + Formoterol	Relvar Ellipta (p)
		Formoterol + Fluticasonepropionat	Flutiform (s)
		Fluticasonepropionat + Salbutamol	Airlineal forspiro (p) Seretide (s+p) Seretide Evohaler (s)
KORTTIDSVIRKENDE B2-AGONIST + KORTTIDSVIRKENDE ANTIKOLINERGIKA	INHALATION	Ipratropium + Fenoterol	Berodual (s) Duovent (s)
KORTTIDSVIRKENDE B2-AGONIST + KORTTIDSVIRKENDE ANTIKOLINERGIKA	INHALATIONSVÆSKE	Ipratropium + Fenoterol	Berodual Duovent
		Salbutamol + Ipratropium	Combivent Ipramol Steri-Neb Sapimol

Andre former for medicin

STOFGRUPPE	ADMINISTRATION	Aktivt stof	Produkt navn
ANTIKOLINERGIKA	INHALATION	Acetylcholin	Eklira Genuair (p)
		Glycopyrronium	Seabrid Broozhaler (p)
		Ipratropium	Atrovent (p)
		Tiotropium	Spiriva (p)
	INHALATIONSVÆSKE	Ipratropium Tiotropium	Atrovent Ipratropiumbromid Spiriva (p)
THEOPHYLLINER	TABLET	Theophyllin	Nuelin Retard (udgået) Theo-Dur Unixan
	INJEKTIONSVÆSKE	Theophyllin + Ethylendiamin	Teofylamin
ANTI-IgE-ANTISTOFFER	INJEKTIONSVÆSKE	Omalizumab	Xolair
FOSFODIESTERASE-4- HÆMMERE	TABLET	Roflumilast	Daxas

Noter :

s = udleveres som spray

p = udleveres som pulver

Bemærk at nogle præparater indeholder lactose. Dog i så små mængder at det sjældent udgør et problem

Få præparater kan også gives som injektionsvæske eller infusionsvæske.

Se www.medicin.dk for detaljerede oplysninger.



DIN HVERDAG ASTMA ALLERGI HØFEFER EKSEM KOL MCS

HVAD ER ASTMA ASTMABEHANDLING FOREBYGGING AF FALD ASTMA OG ALLERGI BØRN UNGE GRAVID JORÆT BLIV CASE BLOGS

Medicin, der virker nu
 Medicin, der forebygger
 Kombinationsbehandling
 Andre former for medicin
 Bivirkninger
 Mål for behandlingen
 Få en plan
 Hjælpemidler til medicin
 Ventelister
 Få styr på teknikken
 Bronkial Termoplastik
 Behandling - historisk
 Alternativ behandling

Du er her: Forside Astma Astma-behandling Medicin, der virker nu

Medicin, der virker nu

Akutvirkende astmamedicin kaldes også anfaldsmedicin. I den medicinske verden hedder denne gruppe Beta2-agonister.

Kortidsvirkende luftvejsudvidende medicin

Medicinen får de små muskler omkring dine små fine lunger til at slappe af, så passagen bliver større, og luften kan strømme mere frit i dine lunger.

Den virker hurtigt - akut, og er luftvejsudvidende i kortere tid, og bruges ved astmaanfald. Virkningen kommer i løbet af få minutter, og varer normalt ca. 4 timer.

Det er vigtigt, du ALTID har din anfaldsmedicin med dig, og holder øje med at din inhalator ikke pludselig er tom for medicin.

Hvis du symptomer i forbindelse med sport eller fysisk anstrengelse, kan det være en fordel at tage anfaldsbehandling inden anstrengelsen. Tal med din læge om dette.

Anfaldsmedicin taget inden fysisk aktivitet, tæller ikke med i regnskabet

Anfaldsbehandling gives ofte som pulverinhalator, men findes også som spray, tabletter, mikstur, inhalationsvæske eller indsprøjtning.

Hvis du bruger spray, er det en god idé at anvende en åndingsbeholder - også kaldet spacer.

Farvekoden på inhalatoren med den hurtigvirkende anfaldsmedicin er blå.

Medicinen kan hedde fx Bricanyl, Ventoline eller Alomir.

Hvis du har brug for store doser anfaldsmedicin, kan du opleve bivirkninger. De viser sig i form af hjertebanken, let rysten på hænderne og måske indre uro. Dette er ganske ufarligt og forsvinder som oftest hurtigt igen.

Hold regnskab

Hvis du har brug for at tage anfaldsmedicin 2 eller flere gange om ugen, kan det være tegn på, at du har brug for mere forebyggende medicin.

Hvad er astma
 Hvordan får du undersøgt dine lunger
 Liste over forskellige former for astmamedicin

3 TIPS TIL AT VÆRE VELBEHANDLET

1. Din læge er nøglen til at være velbehandlet. Insister på at blive ordentligt udredt, og husk astmakontrol hos lægen - også når det går godt.
2. Udarbejd en behandlingsplan i samarbejde med lægen.
3. Kontakt din læge, hvis du oplever forværring eller nye symptomer

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Duer her: Forside Astma Astmabehandling Medicin, der forebygger

Medicin, der forebygger

Steroider/binyrebarkhormoner

Steroider har været brugt til behandling af astma i mange år, og er den mest effektive forebyggende behandling.

Steroider er et hormon som vi danner i vores binyre, helt præcist i barken. Derfor omtales steroid også som binyrebarkhormoner.

Steroider virker ved at dæmpe den betændelselignende tilstand i luftvejene. Denne tilstand kaldes inflammation. Reaktionen i slimhinden skyldes ikke en infektion med bakterier og virus.

Derfor hjælper antibiotika ikke. Det gør steroider.

Det får hævelsen og irritationen til at falde, og slimhinden bliver mere modstandsdygtig over for det, du ikke kan tåle.

Hvis du er i god forebyggende behandling, har du ikke brug for anfaldsmedicin så tit.

Forebyggende medicin gives ofte som pulverinhalator, men medicinen kan også gives som spray, tabletter, inhalationsvæske eller indsprøjtning.

Hvis du bruger spray, kan det være hensigtsmæssigt at anvende åndingsbeholder.

Inhalationssteroid virker først maksimalt efter 2-4 ugers fast daglig behandling. Derfor er det vigtigt, at du bruger din forebyggende medicin dagligt – også i de perioder, hvor du ikke har symptomer på astma.

Får du forebyggende medicin som inhalationsbehandling, kan den fx hedde *Spiracort*, *Flixotide*, eller *Asmanex*.

Farvekoden på inhalatoren med den forebyggende medicin er brun eller orange/rød.

En tommelfingerregel er:

Hvis du har brug for anfaldsmedicin mere end to gange om ugen eller mere, er din astma ikke under fuld kontrol. Så er det tid til at kontakte din læge med henblik på at få afklaret, om du skal justere din forebyggende behandling.

Anfaldsmedicin taget indon fysisk aktivitet, tæller ikke med i dette regnskab.

Hvor meget forebyggende medicin netop du har behov for, er afhængigt af dine symptomer. Symptomerne afhænger blandt andet af, hvor meget du er udsat for allergener, irriteranter og infektioner.

Det er derfor en god idé at have en behandlingsplan, så du ved, hvor meget forebyggende medicin du skal tage fast, samt hvor meget du eventuelt skal øge dosen i mindre gode perioder.

Undgå bivirkninger

Du kan selv være med til at begrænse risikoen for svampeinfektion i munden. Skyl munden eller børst tænder, når du har taget din forebyggende medicin med steroid.

Steroid som tabletbehandling

Tabletbehandling med den forebyggende steroid, kan blive nødvendigt for alle. Det gives som en kort kur i forbindelse med en forværring af din astma.

Længerevarende behandling påvirker hele kroppen og anvendes derfor kun til dem, der har svær astma, hvor symptomerne ellers ikke kan holdes under kontrol.

Disse tabletter kan fx hedde *Medrol*, *Prednisolon* eller *Prednison*.

Hjælpemidler til astma- og allergibehandling
 Det er vigtigt at have en plan - en behandlingsplan

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DIN HVERDAG ASTMA ALLERGI HØFEFER EKSEM KOL MCS

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Kombinationsbehandling

Ved kombinationsbehandling er både den forebyggende steroid, og den langtidsvirkende luftvejsudvidende medicin samlet i én og samme inhalator.

Du kan bruge kombinationsbehandling, hvis din læge vurderer, at du har brug for behandling med begge typer medicin. I så fald er det nemmere at bruge én inhalator end at huske 2 forskellige.

I nogle tilfælde er det muligt at bruge kombinationspræparatet både som forebyggende behandling og ved anfald. Tal med din læge om, hvorvidt dette er en mulighed for dig.

Kombinationsmedicin findes som pulverinhalator, og kan fx hedde Symbicort eller Seretide.

Farven på inhalatoren er rød eller lilla.

[Liste over forskellige former for astmamedicin](#)

3 TIPS TIL AT VÆRE VELBEHANDLET

1. Din læge er nøgen til at være velbehandlet. Insister på at blive ordentligt udredt, og husk astmakontrol hos lægen - også når det går godt.
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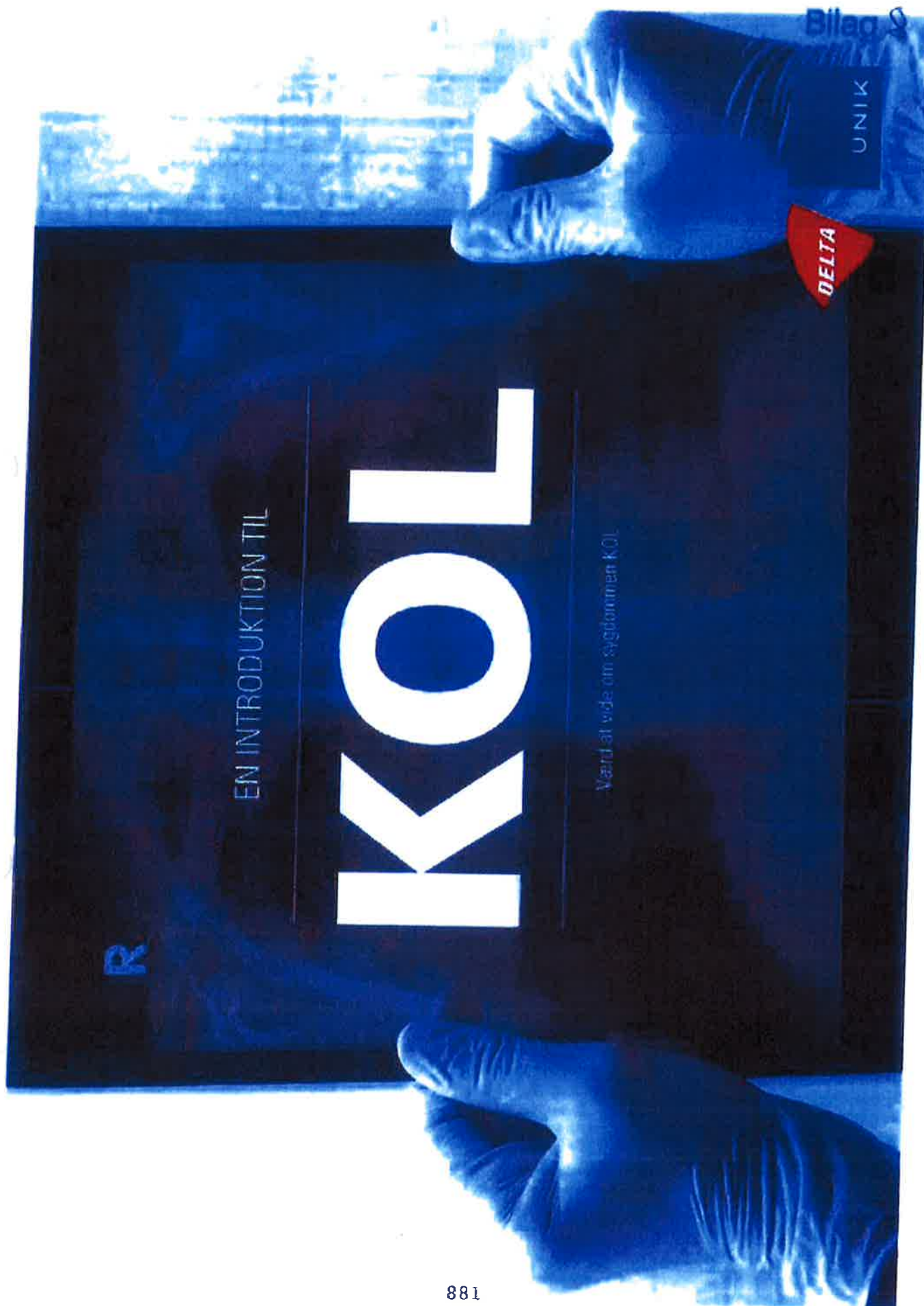
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EN INTRODUKTION TIL KOL

Værd at vide om sygdommen KOL

Om UNIK-KOL

Projektets hovedformål er at identificere og udvikle/modne teknologier og nye behandlingsmetoder for KOL (Kronisk Obstruktiv Lungelidelse). Formålet er, at borgere med KOL kan blive mest muligt i eget hjem, og i størst muligt omfang behandle og monitorere deres egen sygdom – med minimal deltagelse af social- og sundhedspersonale.

Projekter vil skabe grobund for nye produkter, teknologier og serviceydelser udviklet og udbudt af danske virksomheder fokus på et globalt eksportpotentiale.

Projektet arbejder sammen med udvalgte hospitaler og kommuner

God læselyst

Eva Kühne



Forfattet af DELTA med Bianca Janina Preil, Stud. Healthcare Technology og Eva Kühne, Business Developer med støtte fra UNIK-KOL projektgruppen. Dokumentet er skrevet i forbindelse med innovationspartnerskabet UNIK og projekt UNIK-KOL. Udgivet af UNIK – www.partnerskabetunik.dk

1. udgave april 2012 Grafisk setup og layout af DELTA's Marketingsafdeling

2

TAK:

Stor tak til Bodil Bjørnshave fra Marselisborg-Centret for faglige input og styrkelse af det faglige niveau.

Endvidere stor tak til Sønderborg Kommune, som har åbnet dørene til deres arbejde med KOL, såvel i sygeplejen som i rehabiliteringen. Sønderborg Kommune har sikret inddragelse af borgere med KOL og dermed en forståelse for borgernes liv og udfordringer.

Og TAK til Odense Universitetshospital. Tak for viden og input omkring rehabilitering på hospitalet og for at åbne dørene til deltagelse i KOL-patienttræning samt for at sætte os i forbindelse med borgere med svær KOL.

UNIK er et partnerskab mellem universitet og virksomheder, der har til formål at udvikle og introducere nye teknologier og produkter til forbedring af sundheden og livskvaliteten. UNIK er et partnerskab mellem universitet og virksomheder, der har til formål at udvikle og introducere nye teknologier og produkter til forbedring af sundheden og livskvaliteten.

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Tak til alle partnerskaber, der har støttet os i vores arbejde med at udvikle og introducere nye teknologier og produkter til forbedring af sundheden og livskvaliteten. UNIK er et partnerskab mellem universitet og virksomheder, der har til formål at udvikle og introducere nye teknologier og produkter til forbedring af sundheden og livskvaliteten.

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KOL kan ikke helbredes, og der er tvivl om hvorvidt den eksisterende medicin, har den ønskede effekt¹², hvorfor det er vigtigt at opfordre patienten til rygestop og motion. Sygdomsprocessen kan bremses, men ikke helbredes. Det eneste, der stopper den videre nedbrydelse af lungevæv, er rygestop.

- Antibiotika → nedkæmper bakterier

Det anbefales, at alle KOL patienter får en årlig influenzavaccination, idet denne kan reducere alvorlig sygdom og antal af dødsfald hos KOL-patienter med omkring 50 %.¹⁷

Der findes både korttids- og langtidsvirkende bronkodilatorer (3-24 timer). Medicinen virker

ved at udvide luftevejene, således at vejtrækningen lettes. De vigtigste typer er β -agonister, antikolinerge stoffer og theofyllin.^{2,3} Fast behandling med langtidsvirkende bronkodialatorer har vist sig at være mere effektiv og nemmere at anvende end de korttidsvirkende bronkodialatorer.³ For at få den bedste effekt kan flere af disse medikamenter kombineres (kombinationspræparater).²

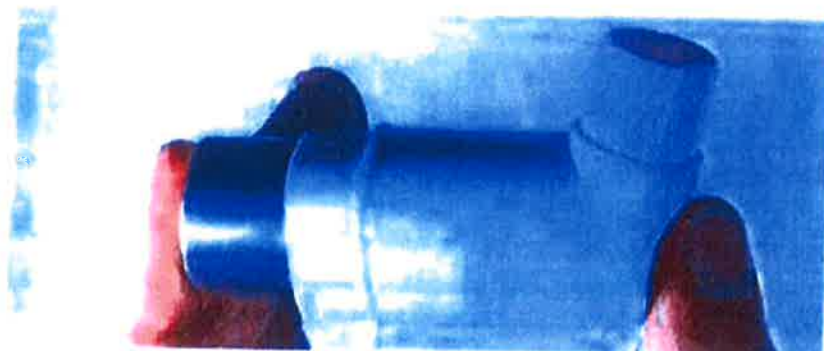
Beta2-agonister stimulerer beta2-receptorerne i luftvejene. Dette får muskulaturen i lungerne til at slappe af, således at bronkierne udvider sig.^{1,2} Medicinen indtages oftest via inhalator, men den kan også gives som tabletter eller vha. sprøjter. Det foretrækkes at give medicinen via inhalation, da de aktive stoffer her kommer direkte ned i lungerne. Derudover er denne metode mere skånsom for kroppen, idet der er færre bivirkninger.¹² Alt efter inhalationsapparat, er medicinen fremstillet som pulver, væske eller damp. Vælgtes inhalation som mediceringsstype må det sikres, at patienten behersker teknikken, således at den størst mulige mængde medicin indtages.²

De langtidsvirkende præparater har vist sig at have bedst effekt, og de anvendes ofte i kombination med inhalerede binyrebarkhormoner i samme inhalator (kombinationspræparater).²

Medicinen kan kun tages ved inhalation, men har vist sig både at have færre bivirkninger og en bedre virkning end beta2-agonister. Medicinenter indikerer for denne gruppe egner sig godt til vedvarende brug ved KOL, da virkningen ikke svækkes nævneværdigt over tid og bivirkningerne er relativt sjældne.

Theofyllin virker ved at afslappe de glatte muskler i lungerne, således at lufttræne udvides og vejrtrækningen lettes. Theofyllin vælges udelukkende, når de andre præparater ikke er egnede. Dette skyldes at Theofyllin har mange bivirkninger, og specielt patienter med hjertesygdomme, leversygdomme og højt blodtryk skal være forsigtige med indtagelse af medicamentet. Theofyllin indtages i tabletform og bliver anvendt ved patienter, der har problemer med anvendelse af inhalationspræparater og/eller får betydelige bivirkninger af disse.

Patienter siger ofte om langtidsvirkende medicin:
"Jeg kan næsten ikke mærke, den virker."



MEDICINSK BEHANDLING

VED KOL FEV1 > 80 %	MIDDELST KOL 51 % < FEV1 < 80 %	SVÆR KOL 30 % < FEV1 < 50 %	FØRST SVÆR KOL, FEV1 < 30 % ELLER FEV1 < 50 % OG RESPIRATORISKEGT
[REDACTED]			

Figur 11: Bilde: Tappens indhold er fra bilde 1,2,3,4 og 12

4.3 BINYREBARKHORMONER (OGSÅ KALDT KORTIKOSTEROIDER ELLER STEORIDER):

Binyrebarkhormoner hæmmer betændelsessituationer i kroppen og anvendes ved KOL-patienter for at mindske inflammationen i lungerne. Binyrebarkhormoner har alvorlige bivirkninger, som fx knogleskørhed (osteoporose), muskelsvaghed, grå og grøn stær.²

KOL-patienter kan enten inhalere medikamentet eller få det på tabletform. Inhalationsbehandling anvendes ved svær eller meget svær KOL. Tabletbehandling forsøges undgået grundet bivirkninger, men anvendes i kortere perioder ved akut forværring af sygdommen.²⁴

Inhalationsmedicin er mere skånsomt, fordi stoffet kun virker i luftvejene og dermed giver færre bivirkninger. Dog kan der opstå hæshed og svampinfektioner i munden. Svampinfektioner i munden kan undgås ved at skylle munden efter brug af inhalator.¹²

4.4 ANTIBIOTIKA:

KOL-patienter er ofte udsat for luftvejsinfektioner, som kan medføre akutte forværringer af KOL. De hyppige infektioner skyldes at lungerne forsvarsmekanisme er nedsat. Ved tilfælde af infektion kan der igangsættes en antibiotikabehandling i 5-10 dage. Antibiotika skal dog ikke gives forebyggende.²

spray, idet spray har vist sig at være vanskelige at benytte grundet koordinationsproblemer mellem at udløse og indånde samtidig. Dette reducerer den mængde medicin, der når til lungerne. Ved spray ankommer ca. 10 % af en dosis i lungerne og ved pulver 20 %.⁶

Inhalationspulver indtages via pulverinhalatorer, der både findes som enkelt dosis og flerdosismodeller. Inhalatorerne er koordinationsafhængige, hvilket er en fordel. Derimod kræver det, at patientens sugeevne er kraftig, således at pulverpartiklerne splittes i mindre bestanddele med en størrelse på 1-5 mikrometer. Det er særdeles vigtigt at tjekke, om patienten kan anvende teknikken, inden den gives med hjem. Hertil findes forskellige træningsapparater, der fortæller, om patienten har nok sugeevne.⁸

TRÆNING I INHALATIONSTEKNIK

KOL-patienter får oplæring og kontrol i anvendelse af inhalationsteknik. Ved træningen øves der med inhalatorer, der afgiver fløjt for korrekt brug, fx turbuhaler og diskos.¹⁴

En vigtig del af træningen er at formidle, hvordan det ses, om inhalatoren snart er tom, samt hvornår og hvordan rengøring af mundstykket foretages. Herudover skal vridningen af håndbøjning og skyl af mund efter brug af inhalator påpeges – grundet risiko for mundsvamp (ved steroider).¹⁴ Det er vigtigt, at der løbende følges op på teknikken, således at eventuelle inhalationsfejl kan rettes.



Pap-fløjten er ikke medicin, men en vigtig del af behandlingen, idet den er et godt hjælpemiddel, der letter at slim kan hostes op. PEP står for Positivt Expiratorisk Pressure hvilket, betyder positivt tryk på udåndingsluften.¹⁰

PCP-fløjten er et lille rør med en indbygget modstand, som gør, at der skabes et lille overtryk i uftårerne, når der pustes i fløjten. Dette løsner slimen, således den kan hostes op.¹⁶

PEP-fløjten anvendes ofte 2 gange dagligt: morgen og aften. Dog anbefales det, at den anvendes oftere ved stor slimproduktion.¹¹

OVERSIGT OVER MEDICIN OG FARVEKODER

[illegible]

Figur 12: Figurens indhold er i ra Danmarks Lungeforenings hjemmeside

Inhalationsläkemedel vid astma/KOL

Kortverkande (4-6 tim) bronkdilaterare, selektiv β_2 agonist (grå-blå färgskala):

Substans	Namn	Pulverinhalator	Aerosol	Nebulisering
Terbutaline	Bricanyl	Turbuhaler	Inhalationsspray	Inhalationsvätska
Terbutaline	Terbasmin	Turbuhaler		
Salbutamol	Ventoline	Diskus	Evohaler	Inhalationsvätska
Salbutamol	Buventol	Easyhaler		
Salbutamol	Airomir	Autohaler	Inhalationsspray	

Kort- och långverkande antikolinergika, motverkar bronkkontraherande signaler från nervus vagus (grå färgskala):

Substans	Namn	Pulverinhalator	Aerosol	Nebulisering
Ipratropiumbromid	Atrovent (4-6 tim)		Inhalationsspray	Inhalationsvätska
Tiotropiumbromid	Spiriva (24 tim)	Handihaler	Respimat	
Glycopyrron	Seebri (24 timmar)	Breezhaler		

Kombination av kortverkande (4-6 timmar) selektiv β_2 agonist + antikolinergika:

Substans	Namn	Pulverinhalator	Aerosol	Nebulisering
Ipratropiumbromid + Salmeterol	Combivent			Inhalationsvätska
Ipratropiumbromid + Salmeterol	Ipramol			Inhalationsvätska

Långverkande (12 tim) bronkdilaterare, selektiv β_2 agonist (LABA=Long Acting Beta-2 Agonist) (grön färgskala):

Substans	Namn	Pulverinhalator	Spray	Nebulisering
Salmeterol	Serevent	Diskus	Evohaler	
Formoterol	Oxis	Turbuhaler		
Formoterol	Fonmatris	Novolizer		

Ultra långverkande (24 tim) bronkdilaterare, selektiv β_2 agonist.

Substans	Namn	Pulverinhalator	Aerosol	Nebulisering
Indaketerol	Onbrez	Breezhaler		

Inhalationssteroider (ICS= Inhaled Corticosteroids) (brun-orange färgskala):

Substans	Namn	Pulverinhalator	Aerosol	Nebulisering
12 timmars effekt:				
Beklometason	AeroBec		Autohaler	
Beklometason	Beclomet	Easyhaler		
Budenosid	Pulmicort	Turbuhaler		Inhalationsvätska
Budesonid	Giona	Easyhaler		
Budesonid	Novopulmon	Novolizer		
Flutikason	Flutide	Diskus	Evohaler	
24 timmars effekt:				
Mometason	Asmanex	Twisthaler		
Ciklesonid	Alvesco		Spray	

Kombination av inhalationssteroid och långverkande bronkdilatorer (röd-lila färgskala):

Substans	Namn	Pulverinhalator	Aerosol	Nebulisering
Salmeterol + Flutikason	Sercide	Diskus	Evohaler	
Budesonide + Formoterol	Symbicort	Turbuhaler		
Beklometason + Formoterol	Innovair		Dosaerosol	
Flutikason + Formoterol	Flutiform		Dosaerosol	

Per orala läkemedel vid astma/KOL

Substans	Namn	Indikation
Montelukast	Singulair	Astma
Bambuterol	Banbec	Astma
Roflumilast	Daxas	KOL
Teofyllamin	Theo-Dur	Astma + KOL
Acetylcystein	Acetylcystein, Mucomyst	KOL (?)
<i>Prednisolon</i>	<i>Prednisolon</i>	<i>Astma + KOL (vid exacerbation)</i>
<i>Betametason</i>	<i>Betapred</i>	<i>Astma + KOL (vid exacerbation)</i>

Övriga läkemedel vid astma/KOL

Substans	Namn	Administration	Indikation
Omalizumab	Xolair	Subkutan	Svår allergisk astma



Behandling av astma

Astma är en lungsjukdom som orsakas av en inflammation i luftvägarnas slemhinna. För att förbättra sin astmasjukdom krävs det oftast behandling och medicinering.

Under 1970-talet inleddes antiinflammatorisk behandling med kortison i inhaled form, det förbättrade behandlingen av astma radikalt.

Idag går det i de allra flesta fall att med lämpliga mediciner kontrollera astmasjukdom så väl att personer med astma kan leva ett helt normalt liv.

Ofta livslång men enkel behandling

Det inandade kortisonet förmår dock vanligen inte att helt slå ut inflammationen i luftvägarna så att en bestående läkning inträder. Hos vuxna patienter med astma är utlösningssfrekvensen låg, cirka 2 per 100 patienter och år. Det krävs därför att den antiinflammatoriska behandlingen med inhaled kortison sker regelbundet och under lång tid, ofta livslångt.

Mot denna bakgrund är det uppenbart att den som får astma har mycket att vinna på att själv lära sig grunderna för modern astmabehandling.

Patienten med astma bör bli verklig expert på sin egen sjukdom. Läkarens och sjuksköterskans uppgift är att utbilda och vägleda patienten till att uppnå detta mål. De bör också informera patienten om vilka utlösande faktorer som är särskilt viktiga att undvika.

Allergisk typ

Astmasjukdomen kan vara av allergisk eller icke-allergisk typ, det finns även blandformer. Om patienten med astma har allergi mot pälsdjur är det viktigt att minimera exponeringen för pälsdjursallergen. Det innebär i praktiken att en patient som har katt- eller hundallergi inte bör ha katt eller hund i bostaden. Tillfälliga kontakter, t.ex. besök hos vänner med katt eller hund, finns ingen anledning att avråda från om de är möjliga att genomföra utan att de framkallar för mycket symptom. Patienter med icke-allergisk astma kan mycket väl ha egna pälsdjur.

Rökning

Astma och cigarettrökning är en synnerligen olämplig kombination. Cigarettrökningen ökar risken för att astman förvärras och blir av svår typ. En bidragande faktor till detta är att inandad kortison har sämre effekt på astma hos patienter som röker. Även passiv rökning bör så gott det går undvikas.

Yrkesastma

Det uppskattas att cirka 15 procent av all astma hos vuxna orsakas av faktorer i arbetsmiljön. Billackerare, frisörer, laboratoriearbete med försöksdjur, byggnadsarbetare med dammexponering är exempel på yrken eller arbetsmiljöer som medför ökad risk för astma. Förbättrad ventilation eller andra åtgärder för att minska exponeringen kan ibland ge god effekt, men arbetsbyte är i vissa fall nödvändigt.

Läkemedel

De läkemedel som används vid behandling av astma är i huvudsak av två typer, luftrörsvidgande och antiinflammatoriska. De förra har framför allt en avslappnande effekt på muskulaturen kring luftrören. De senare dämpar inflammationen i luftrörsslemhinnan. De två typerna av läkemedel kombineras ofta i en och samma behandling. För att kunna skilja mellan dessa två typer av läkemedel tillämpas en färgkod: inhalatorer för luftrörsvidgande läkemedel är blå eller gröna, för antiinflammatoriska läkemedel vanligen bruna eller orange.

Luftrörsvidgande, kortverkande

Kortverkande luftrörsvidgande läkemedel används när behov uppstår, det vill säga vid andningsproblem. Effekten är snabb och verkar på ett par minuter. I Sverige ges medlen i de flesta fall som pulver som andas in via en liten inhalator. De förekommer även i aerosol form, så kallad astmaspray.

De flesta kortverkande luftrörsvidgande medlen är s.k. beta-2-stimulerare. Om dessa skulle ge obehaglig biverkan i form av hjärtklappning kan en så kallad antikolinerg luftrörsvidgare ges.

Kortverkande luftrörsvidgare kan vara den enda astmamedicin som krävs om astmabesvärerna endast förekommer sporadiskt och är av lindrig natur.

Inhalationssteroider

Inandad kortison är det läkemedel som oftast används när man vill ha en antiinflammatorisk effekt. Effekten märks efter några dagars regelbunden behandling. Den positiva effekten ökar sedan ofta under följande månader. Indikationen för att sätta in kortison, en s.k. inhalationssteroid brukar vara att patienten har astma som ger rätt tätt återkommande symptom. Med det menas besvär som kräver medicinering med luftrörsvidgare mer än två till tre gånger i veckan. När symptomen hålls under kontroll med inhalationssteroid kan man försöka reducera dosen till lägsta möjliga nivå, men med bibehållen astmakontroll.

Långverkande beta-2

Långverkande luftrörsvidgande mediciner brukar adderas till behandling med inhalationssteroid om den senare behandlingen ensam inte ger acceptabel effekt. De långverkande luftrörsvidgande läkemedlen ges också i inhaled form. Effekten av en dos sitter i cirka 12 timmar, därför behövs två doser, en på morgonen och en på kvällen. På senare år har kombinationspreparat med kortison och långverkande beta-2-stimulerare lanserats, så att båda läkemedlen ligger i en och samma inhalator. Detta kan underlätta behandlingen i många fall.

Antileukotriener

Leukotriener är signalsubstanser som driver på den inflammation i luftvägarna som ses vid astma. Med ett läkemedel som motverkar leukotrieneffekten, ett så kallat anti-leukotrien, kan astmabesvär reduceras. I Sverige finns idag ett läkemedel av denna typ, en tablett som doseras 1 gång dagligen. Anti-leukotriener kan även användas som komplement till en inhalationssteroid i likhet med vad som gäller för långverkande beta-2-stimulerare (se ovan).

Kortisontabletter

Kortison i tablettform används vid akuta försämringar av astman som ett tillägg till övrig behandling. Ofta ges tabletterna även 1 eller 2 veckor efter den akuta försämringen. Vid svår form av astma, som förekommer hos cirka 5-10 procent av alla med astma, kan det vara nödvändigt att ge små doser av kortison i tablettform under längre perioder. Denna behandling bör skötas av specialist i allergisjukdomar eller lungmedicin.

Specifik immunterapi

Vid allergisk astma, till exempel vid allergi där ett eller ett par allergen spelar en avgörande roll för astmans svårighetsgrad, finns möjlighet att med så kallad specifik immunterapi reducera denna känslighet. Behandlingen ges i injektionsform av allergiläkare. Stigande doser av allergen injiceras i underhuden varje vecka under ett par månaders tid, vilket kan leda till hel eller partiell tolerans för allergenet i fråga. För att erhålla en långvarig effekt pågår behandlingen mellan 3 och 4 år med underhållsinjektioner varannan månad.

Anti-IgE

Ett nytt läkemedel som blockerar de allergiantikroppar av IgE-typ som orsakar allergisk astma har gett lovande resultat i inledande studier. Indikationen är svår astma av allergisk typ. Ett nytt läkemedel mot allergisk astma är sedan hösten 2005 registrerat i Sverige. Läkemedlet fungerar genom att blockera allergiantikroppar av IgE-typ. Det ges i injektionsform varannan till var fjärde vecka.

Alternativmedicinska behandlingar

Vid den genomgång av den internationella litteraturen som gjordes av SBU (Statens beredning för medicinsk utvärdering) år 2000 förelåg inga vetenskapliga rapporter som kunde visa positiv effekt av till exempel akupunktur, kiropraktik, yoga, hypnos, zonterapi eller qigong.

Förebyggande

Vaccination mot influensa rekommenderas vid medelsvår och svår astma.

Uppdaterad den: 17 mars 2008

Författare: Gunnar Bylin, docent, specialist i allergisjukdomar, Stockholm

<http://www.nursingtimes.net/nursing-practice/clinical-zones/asthma/know-how-asthma-inhalers/205984.article>

KNOW HOW Asthma inhalers

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This guide explains how different types of inhaler devices work, and describes their benefits and drawbacks.

This guide explains how different types of inhaler devices work, and describes their benefits and drawbacks. Inhalation is the generally preferred method of delivery of medication for treating asthma. The drug is delivered directly to the airways, so it can act more quickly and smaller doses can be used. The pressurised metered-dose inhaler (MDI), developed in 1956, is still the most widely prescribed inhaler device in the UK and is used by over 75% of patients. Because of the need to coordinate actuation with inspiration the patient needs careful instruction to ensure correct use. Following the signing of the Montreal Protocol (Rowlands, 1993) on reducing the use of chlorofluorocarbons worldwide, MDIs containing CFCs are being replaced with CFC-free inhalers (hydrofluoroalkane devices). Most HFA MDIs have a one-to-one equivalence with their CFC-containing counterparts and can be replaced dose for dose. Where such an HFA is not available, dose adjustments will be necessary. Research shows that over 50% of patients do not use metered-dose inhalers correctly (Hilton, 1990). Of those whose technique is correct, many are likely to forget it without reinstruction (Crompton, 1982) and may forget to use it correctly under stress (Lindgren et al, 1987). Health professionals, too, may have problems with inhaler devices (Cooper et al, 1992) and so may need training to teach patients correct inhaler technique. A patient's use of their inhaler device should be checked at every consultation, as inappropriate device selection or inadequate training can result in inefficient drug delivery and treatment failure (Lenney et al, 2000). The National Asthma and Respiratory Training Centre recognises the importance of device selection and has issued advice on correct use and points to consider when selecting an inhaler device (Barnes et al, 1997) (Box 1). A patient's abilities and attitudes to asthma therapy will affect their use of the device, so this should be considered when selecting one.

Colour coding of devices

In many cases, drug classes will be identified by the colour of the inhaler. The colour-coding is as follows: - Blue: short-acting β_2 agonist ('reliever'); - Brown/orange/burgundy: corticosteroid ('preventer'); - Green: long-acting β_2 agonist; - Purple: long-acting β_2 agonist/corticosteroid combination.

Types of inhaler

Inhaler devices can be broadly categorised into three types: pressurised metered-dose inhalers,

dry-powder inhalers, and nebulisers. Metered-dose inhalers (MDIs) can be subdivided into unadapted and adapted devices, spacer devices, and breath-actuated devices. Dry-powder inhalers can be single-dose devices or multiple-dose devices. Multiple-dose devices contain the medication either in a drug reservoir or as individually sealed doses. The latter, because of the way they are manufactured, have greater through-life dose consistency (Malton et al, 1995). Nebulisers can be compressor-driven and ultrasonic. Details of how the different types of inhaler work and how to use them, as well as their pros and cons, are given overleaf.

Device selection

In-Check Dial This device is an important teaching aid. It can be used not only to assess a patient's ability to use a device but also their inhaler technique (Nsour et al, 1999). A sleeve on the barrel can be rotated to apply different resistances to simulate the inspiratory flow resistance of different inhaler devices. The scale represents inspiratory flow in litres per minute and is marked to indicate optimal flows for various devices. Breath-actuated and dry-powder devices have different inherent internal resistances. A patient's ability to achieve optimal inspiratory flow rate through a specific device will vary, depending on their inhalation technique, age and level of asthma control. Use of this device can ensure the selection of an appropriate inhaler for each patient. **Aerosol inhalation meter** The aerosol inhalation meter is a useful training aid. It is an electronic device that uses a dummy MDI to measure coordination of actuation and inspiration, rate of inspiration and breath-holding. **Turbohaler trainer** This is an electronic device that uses a dummy Turbohaler to measure inspiratory flow.

Teaching

Jargon should be avoided and language the patient will easily understand should be used (Box 2). During a consultation nurses should take the opportunity to repeat instructions and check the patient's understanding and technique. **Protocols and device technique** There should be an agreed device check protocol to ensure all members of the health care team are giving the same message. A scoring system for device technique should be drawn up to ensure that each team member is following the same guidelines and technique-checking parameters. Patient device technique should be recorded at each visit.

Acceptability

Acceptance of the device by the patient is critical to successful use. If a patient has problems learning to use one device, it is worth trying a different one. In children and adolescents, peer pressure will affect acceptance of a device. When selecting devices for use by small children, it is important to involve the child and parent. In adults, a device's acceptability may depend on convenience and whether it is seen as a nuisance. In older people, their mental and physical capabilities may affect their ability to learn to use a device.

Best practice

Regular and frequent checks of technique are essential to facilitating patient acceptance and their understanding of how to use the device. Choosing a device the patient finds easy to use should enhance care, as it will reduce the time needed for instruction and to check their technique in using it, thus helping reduce pressure on asthma clinics. The health professional's role in matching the device to the patient is critical and the patient must have a key role in the choice. A device that fits in with their needs will increase the chances of their using it correctly. Therapy for asthma is frequently adjusted because symptoms remain unchanged or become worse. Before any change in dose or therapy class is considered, inhaler technique should be reviewed in case

the patient is not using the device correctly. Good communication between the patient and health care team is vital to successful asthma management. It should involve history-taking, discussion of the condition, an understanding of the patient's attitude to asthma and its management, and insight into the patient's lifestyle.

Understanding Your Inhaler



the asthma foundation
Better *respiratory* health for New Zealanders

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You and your inhaler

This booklet can help you learn how to use your inhaler correctly. You can reduce the risk of side effects and get the most from your medicine.

You will also find information on how to clean your inhaler, store your inhaler and know when your inhaler is empty.

The more you learn about your asthma and how to control it, the better you will manage your condition.

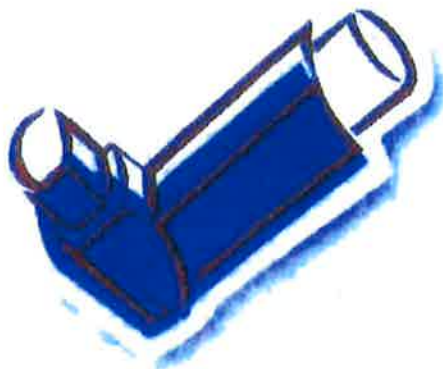
Why are inhalers useful?

Your inhaler helps you breathe asthma medicine straight into your lungs.

Asthma medicine taken as pills and syrups takes a long time to get to your lungs and some gets lost on the journey.

Checking your technique

Get your doctor, nurse or asthma educator to check your inhaler technique regularly, even if you have been using your inhaler for some time.



Asthma Medicines

There are four main groups of asthma medicines:

1 Preventers (brown/red/orange/yellow inhalers)

(brown/red/orange/yellow inhalers) reduce the swelling and narrowing inside the airways. They are used every day in asthma. Preventers are either inhaled corticosteroids (ICS) or non-steroidal

2 Relievers (usually blue inhalers)

(usually blue inhalers) relax the muscle in the airway when it is tight

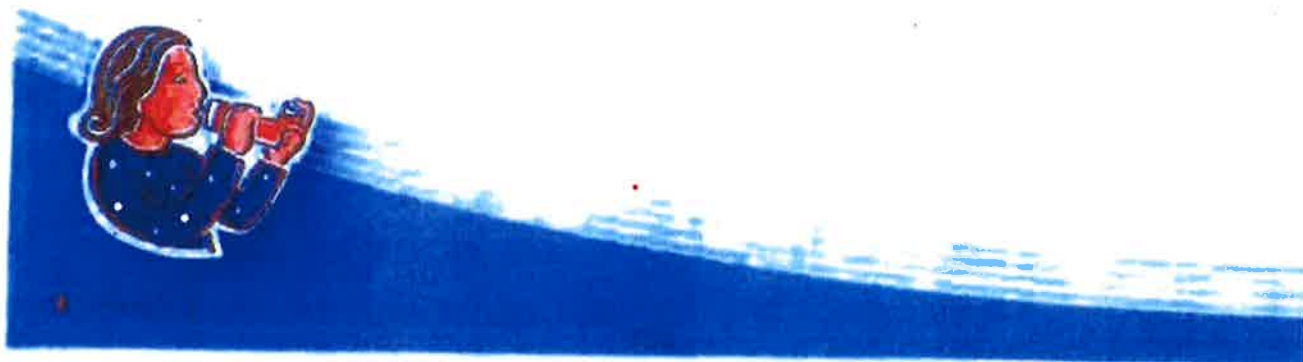
3 Symptom controllers (pale blue/green inhalers)

(pale blue/green inhalers) keep the muscle relaxed and work for 12 hours. They are used twice daily

4 Combinations (red/purple inhalers)

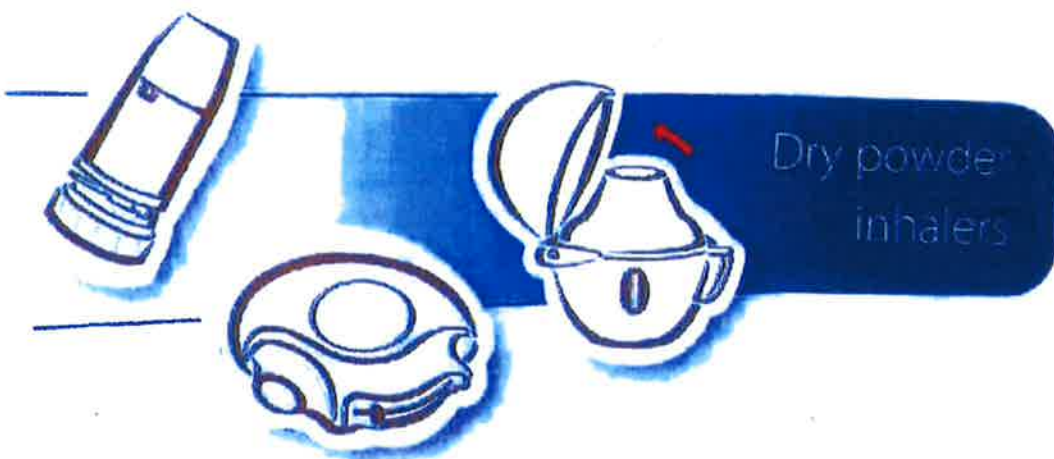
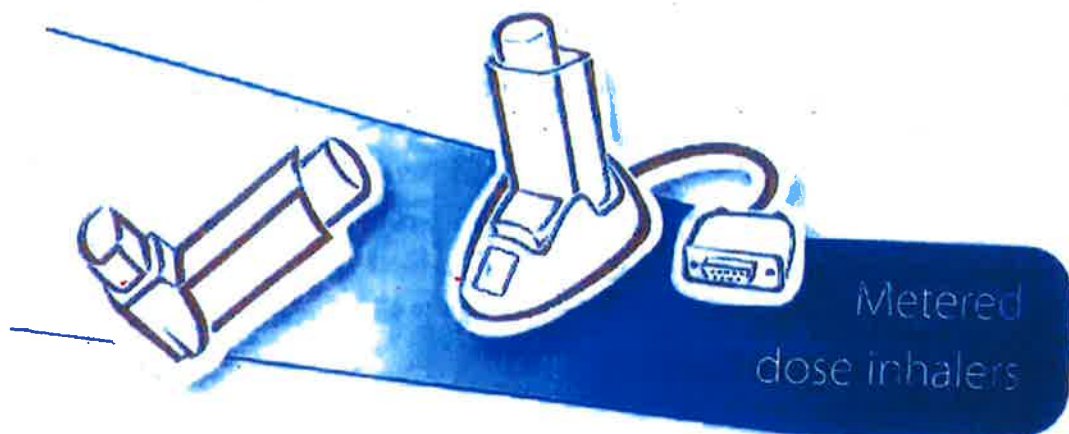
(red/purple inhalers) contain both preventer and symptom controller medicines

There are different strengths of medicine for each group.



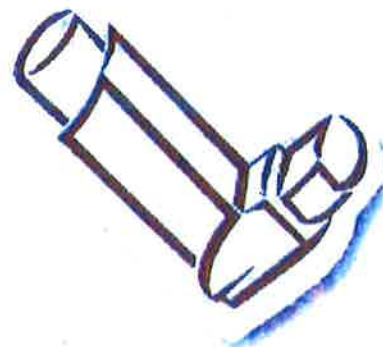
DIFFERENT KINDS OF ASTHMA INHALERS

You can choose between a metered dose inhaler (MDI), a breath activated aerosol inhaler and a dry powder inhaler. Talk to your doctor, nurse or asthma educator about the device that is best for you.



Metered dose inhalers (MDI)

MDI inhalers are sometimes called aerosol inhalers. When the inhaler is pressed, a measured dose of medicine is released through the mouthpiece.



Medicines available in New Zealand

Preventers

Beclazone

Flixotide

Tilade

Vicrom

Relievers

Atrovent

Respigen

Salamol

Ventolin

Symptom Controllers

Serevent

Combination

Seretide

Vannair



ADVANTAGES

- Preventer, reliever, symptom controller and combination medications are all available in MDIs
- A spacer can improve performance
- A haleraid device is available for people who have difficulty pressing the inhaler



DISADVANTAGES

- Some people find it difficult to press the inhaler and breathe in at exactly the right time
- It may be hard to tell when the inhaler is empty
- Needs weekly cleaning to prevent blocking



❖ Recommended age

Children over ten years may be able to use an MDI. However, babies and young children can use MDIs with a spacer or a spacer and a mask.

Everybody that uses an MDI preventer medication should use a spacer to receive maximum benefit from their medicine.

❖ Using your inhaler

- Take off the cap and hold the inhaler upright
- Shake the inhaler to mix the medication with the propellant
- Sit upright, tilt head back slightly (as if you are sniffing – 'sniff position') and breathe out gently
- Hold the device upright, insert the mouthpiece into the mouth ensuring that the lips firmly seal the mouthpiece
- At the beginning of a slow, deep breath, breathe in through the inhaler, activate the aerosol once
- Breathe in fully, remove the MDI from the mouth and hold breath for ten seconds or as long as is comfortable
- Breathe out gently through the nose

Rinse mouth and spit out or clean teeth after using a corticosteroid preventer



❖ Cleaning your inhaler

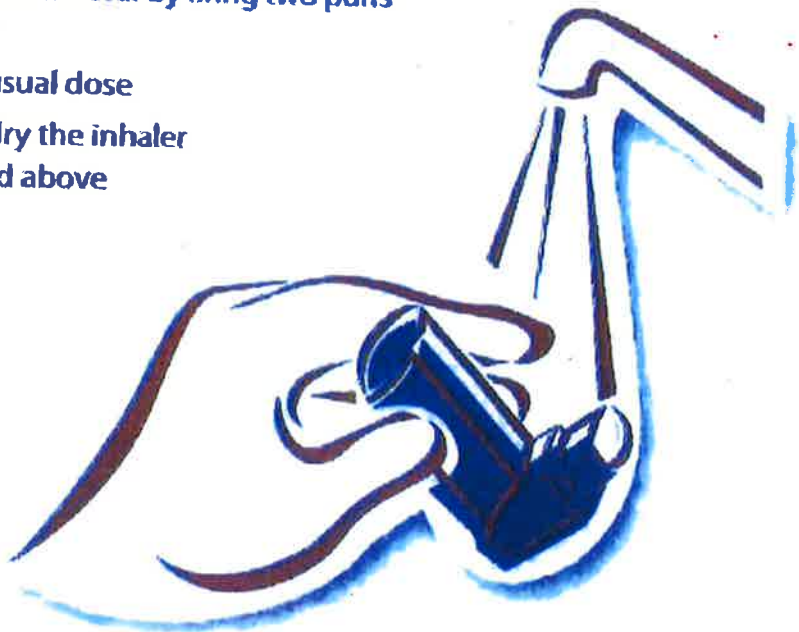
Clean your inhaler **weekly** to ensure it doesn't block (twice weekly if you use Tilade or Vicrom.)

❖ To clean your inhaler

- **REMOVE** the plastic mouthpiece cap
 - **REMOVE** the metal canister (don't put it in water)
 - **RINSE** the mouthpiece and cap under warm water for at least 30 seconds
 - **SHAKE** off any excess water and leave the mouthpiece and cap to dry overnight.
 - Put the metal canister back in, and replace the cap
-

❖ If you need to use your inhaler before it is dry

- Shake off any excess water from the plastic casing and put the metal canister back in
- Test spray the inhaler by firing two puffs into the air
- Take your usual dose
- Wash and dry the inhaler as described above



❖ If your inhaler is blocked and you need it immediately

- Rinse the plastic casing as described above
- Shake off any excess water from the plastic casing and put the metal canister back in
- Test spray the inhaler by firing two puffs into the air
- Take your usual dose
- Wash and dry the inhaler as described above

❖ Storing your inhaler

- Always keep the cap on your inhaler when it is not in use
- Store spare inhalers in cool places (not in car glove boxes)
- Carry a spare clean plastic casing in case the one you are using becomes blocked

❖ Time for a new inhaler

- Shake the device and listen. The contents can be felt and heard moving around inside the canister

❖ Common mistakes

- Breathing in too fast
- Breathing out so hard you cough
- Pressing the puffer too early before you have started to breathe in.
(If you see a mist of medication from your mouth, then you are making this mistake)
- Tilting your head down. It should be tilting back slightly
- Activating inhaler twice during a single inhalation
- Giving the inhaler a 'test puff' into the air and wasting the medication
- Breathing in through the nose instead of the mouth





Spacers

A spacer makes your MDI inhaler easy to use and more effective for people of all ages. Use your spacer with preventer, reliever, symptom controller and combination medications.

Spacers are clear plastic tubes with a mouthpiece or mask on one end and a hole for your inhaler at the other. A valve in the spacer mouthpiece opens as you breathe in and closes as you breathe out.

Small or large volume spacers can be obtained for free from your doctor for people of all ages who use an MDI for their medication.



ADVANTAGES

- Many adults and children are unable to use their MDI inhaler effectively. The spacer reduces the need for perfect technique. Small and large volume spacers can be obtained for free from your doctor
- 50% more medicine enters the lungs when a spacer is used
- Less medicine gets left in the mouth and throat. This reduces the side effects of hoarseness or thrush in your mouth from preventer medicine
- A spacer can help when you are short of breath and an inhaler by itself is difficult to use
- A spacer is smaller, more convenient and cheaper than a nebuliser. Studies on adults and children show spacers work just as well as nebulisers in acute asthma
- Spacers with masks can help very young children inhale their medicine



DISADVANTAGES

- Large volume spacers are bulky and inconvenient to carry



Available types

There are several brands of large and small spacers. Babies and small children should use a small volume spacer and mask. Older children and adults can use either size.

Using your spacer

- Shake the inhaler well (holding it upright)
- Fit the inhaler into the opening at the end of the spacer
- Seal lips firmly round the mouthpiece, (or place the mask so it seals around the nose and mouth.)
- Press the inhaler once only
- Take 1–6 slow breaths in and out through your mouth. Do not remove the spacer from your mouth between breaths.
- Remove spacer from your mouth
- Repeat these steps for further doses

Rinse mouth and spit out or clean teeth after using a corticosteroid preventer

Cleaning your spacer

- Wash the spacer with warm water and dishwashing liquid
- Do not rinse
- Drip dry



Priming

Wash your spacer before you use it for the first time. This is called "priming." It reduces static electricity inside your spacer so that the medicine does not stick to the sides.

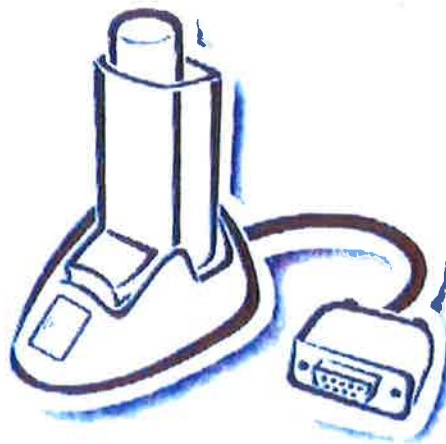
Regular washing

After priming, wash your spacer once per week (or more often if using Vicrom or Tilade.)

Smartinhaler

Smartinhalers contain a micro-computer to help you to use your inhaler effectively.

Smartinhalers can be used with a 'Personal Asthma Manager' software programme. Together the software and smartinhaler allow you to track and control your asthma.



Available types

Smartinhalers are continually being developed for all major medications. Check www.smartinhaler.com for the latest models.

ADVANTAGES

- Smartinhalers used for preventer medications contain a reminder alarm. This helps you to remember to take your preventer should you forget.
- Smartinhalers also contain a 'fuel gauge'. The fuel gauge shows you how much medication is left in your inhaler so that you can replace your medication before you run out.
- 'Personal Asthma Manager' software includes an action plan and educational material, and creates a report of your medication usage and peak flow.

DISADVANTAGES

- Smartinhalers are not subsidised. You will need to purchase a Smartinhaler and computer programme.
- You need to have a computer and computer knowledge.



Using your inhaler

Select a smartinhalet that is labeled for use with your medication. The medication from your standard inhaler is placed inside the smartinhalet.

You can print your report to show your doctor, nurse or asthma educator. The report displays your progress and enables you and your health care professional to optimise your asthma management. The educational material helps you to learn more about your asthma and how to control it, and includes the latest asthma news from around the world.

Information from the Smartinhalet is uploaded to the 'Personal Asthma Manager' by connecting the Smartinhalet to the PC using a cable (just like connecting an iPod to a computer).

Cleaning your inhaler

Always keep your cap on your smartinhalet when not in use.

Storing your inhaler

Store your smartinhalet in a cool dry place.

Time for a new inhaler

Smartinhalets contain a fuel gauge to indicate when your medication is getting low.

Common mistakes

Remember to place the medication canister firmly in the smartinhalet when replacing canisters.

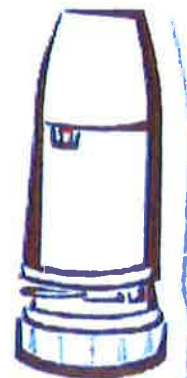


Dry powder inhalers

Dry powder inhalers are breath activated inhalers. The most common dry powder inhaler used in New Zealand is the Turbuhaler.

A Turbuhaler

The turbuhaler is breath activated and has no propellant or carrier added to the medicine. This means you will hardly notice any powder in your mouth.



Medicines available in New Zealand

Preventer
Pulmicort



Reliever
Bricanyl



Symptom
Controller
Oxis



Combination
Symbicort



ADVANTAGES

- Preventers, relievers, symptom controllers and combinations are all available in the Turbuhaler
- Breath activated
- No propellant or carrier added to the medicine
- No powder taste in your mouth
- Special grip for bottom of device available for people who find device difficult to twist

DISADVANTAGES

- The powder cannot be felt or tasted when inhaled
- May clog if exhaled or dribbled into routinely or if stored in an environment of high humidity with the cap unsealed. Do not allow device to get wet
- People with acute asthma or COPD may have trouble breathing in deeply. They may prefer to use an MDI and spacer



❖ Recommended age of use

- 5–7 years to adult

❖ Using your inhaler

- Unscrew and remove the cap
- Hold the Turbuhaler upright. Turn the grip as far as it will go and then back to the original position – listen for the click. (Repeating will not double the dose)
- Sit upright, and breathe out gently
- Insert the mouthpiece into the mouth holding the inhaler horizontally ensuring that the lips are firmly sealed
- Breathe in steadily and deeply
- Remove the Turbuhaler from the mouth, then breathe out gently through the nose
- Replace the cap securely

Rinse mouth and spit out or clean teeth after using a corticosteroid preventer

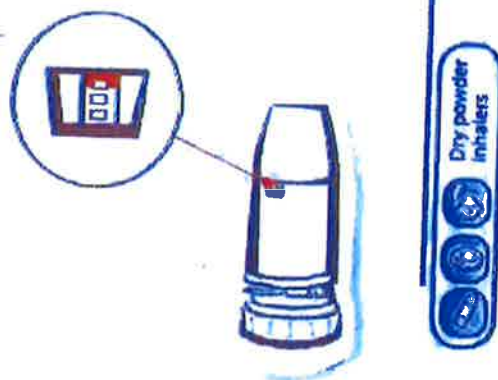
❖ Cleaning your inhaler

Do not allow device to get wet when cleaning.

Wipe the mouthpiece with a dry cloth. Do not wash the mouthpiece. Keep the cap on when not in use.

❖ Time for a new inhaler

There is a window under the mouthpiece on the outside of the Turbuhaler called the 'Empty Soon Indicator.' When a red mark or a number appears at the top of the window, there are approximately 20 doses left.



Common Mistakes

- Not holding the inhaler upright when priming
- Covering the air inlets with lips
- Breathing in through the nose instead of the mouth
- Shaking the inhaler to see how much is left
- Storing inhaler in a damp environment with the cap off

3 Accuhaler

Accuhaler is a breath activated device. Doses of the medicine are set into a foil strip inside the Accuhaler.



Medicines available in New Zealand

Preventer

Flixotide 

Symptom Controller

Serevent 

Combination

Seretide 

ADVANTAGES

- No propellant
- Attached cover protects the mouthpiece
- Individually foiled doses protect medication from moisture
- Dose counter

DISADVANTAGES

- Taste of lactose carrier
- Unable to retrieve missed doses
- Bulky size for carrying



Recommended age

- 5–7 years to adult

Using your inhaler

- Open the device by holding the outer case. Using the thumb grip, slide the cover open as far as it will go
- Face the mouthpiece towards the person using the device
- Push the lever away from the mouthpiece until you hear the 'click'
- Sit upright, tilting the head back (as if you are sniffing – 'sniff' position) and breathe out gently
- Insert the mouthpiece into the mouth ensuring that your lips firmly seal the mouthpiece
- Breathe in fully, remove Accuhaler from the mouth and hold breath for 10 seconds or as long as is comfortable
- Breathe out gently through the nose
- Slide the thumb grip back over the mouthpiece
- Repeat if second dose required

Rinse mouth and spit out or clean teeth after using a corticosteroid preventer

Cleaning your inhaler

- Wipe the mouthpiece with a dry cloth, or clean with a tissue after use

Time for a new inhaler

- The number of doses remaining is displayed, with the last five numbers in red

Dry powder
Inhalers



Common mistakes

- Exhaling into device
- Not 'clicking' lever after opening cover
- Breathing in through the nose instead of the mouth

HandiHaler

The HandiHaler delivers the medication Spiriva which is used by people with Chronic Obstructive Pulmonary Disease (COPD).



Medicines available in New Zealand Spiriva



ADVANTAGES

- Able to taste, feel, hear and see that the dose has been delivered
- Can check if complete dose has been delivered.



DISADVANTAGES

- People with poor eyesight and/or hand coordination may find it difficult to use
- Taste of lactose carrier
- Inconvenience of having to carry separate capsules of medication



❖ Recommended age

Not usually used for children as HandiHaler contains medication prescribed for COPD.

❖ Technique

- Spiriva capsules come in a blister strip. Separate blister strips to create two strips of five capsules
- Peel back the foil from one blister strip to expose one capsule
- Open the HandiHaler protective cover and mouthpiece
- Place the capsule in the centre chamber
- Close the mouthpiece firmly until a click is heard, leaving the protective cover open
- Holding the HandiHaler upright, pierce the capsule by pressing the green button in completely once
- Sit upright, tilt head back (into 'sniff' position) and breathe out gently. Do not breathe into the device. Insert the mouthpiece into the mouth ensuring that the lips are firmly sealed
- Breathe in slowly and deeply. The sound of the capsule vibrating in the chamber will be heard. Remove the HandiHaler from the mouth and hold the breath for 10 seconds or as long as possible. Breathe out gently through the nose.
- Check to see if any powder remains in the capsule. If so repeat the process from 'sit upright'
- Open the mouthpiece. Tip out and dispose of the used capsule. Close the mouthpiece and protective cover to prevent dust/dirt settling on the mouthpiece and being inhaled

Dry powder
inhalers



❖ Time to get some more Spiriva

- Count the capsules left in the box
- Handihaler device may need to be replaced after one year. Replacement Handihalers incur a small charge

❖ Cleaning your inhaler

Clean once a month

- Open the protective cap, mouthpiece and base
- Rinse whole device with warm water and air-dry thoroughly for 24 hours
- Clean outside of mouthpiece with a damp tissue when needed

❖ Common Mistakes

- Piercing capsule more than once could lead to inhaling capsule particles



•• Nebulisers

Nebulisers are an alternative way to take medicine. They produce a fine mist of the medicine, which is breathed in through a mask or mouth piece. They are either powered by an electrical air pump or oxygen. It should take ten to fifteen minutes to breathe in the dose of medication.

A nebuliser is mainly used for reliever medicine.

With so many improved inhaler devices and spacers there is now less need for nebulisers. Research proves that spacers are just as effective in acute asthma for adults and more effective for children than nebulisers.



Which inhaler is right for me?

When asthma medicines are used correctly, they are very safe – even for small children and pregnant women. Inhaled asthma medicines are best as they work quickly and require only small amounts of drug.

Inhalers make it easy to get your medication in the right place at the right time. They are an important part of asthma care.

And because inhalers come in many different shapes and sizes, it's easy to find the one that suits you best.

For up-to-date respiratory information check out our website www.asthmafoundation.org.nz or contact your local Asthma Society.



Your local affiliated Asthma Societies





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Asthma inhaler colors help you easily discern what medicines each device contains. Knowledge of these colors and the corresponding medicines help you get fast and effective asthma relief. Learn more about the different color codes for asthma inhalers.

How Do You Use Blue Asthma Inhalers?

The commonly seen blue capped asthma inhalers are short-acting bronchodilators, also known as relievers. Use these inhalers to stop asthma attacks. Blue inhalers contain short-acting beta-2 agonists that relax airway muscles within five minutes. Blue inhalers contain Salbutamol and Terbutaline with brand names that include Ventolin, Bricanyl, Albuterol and Salamol.

How Do You Use Green Asthma Inhalers?

Green-capped asthma inhalers are long-acting bronchodilators, also known as preventers. These inhalers contain long-acting beta-2 agonists that you use twice per day to improve overall lung function. Preventer inhalers also contain a steroid. The main long-acting bronchodilator green inhalers contain Salmeterol and Formoterol with the brand names of Serevent and Oxis. If you use a blue inhaler more than three times a week, add the preventer inhaler to your care plan.

What Colors Are Anti-inflammatory Asthma Inhalers?

Most anti-inflammatory inhalers are brown, except for the orange fluticasone. Anti-inflammatory inhalers are long-acting bronchodilators that you use at regular intervals. The anti-inflammatory properties of brown inhalers reduce your bronchial tubes from swelling along with the muscle relaxing properties of bronchodilators. Beclomethasone, Budesonide and Fluticasone are the main medicines of the brown and orange asthma inhalers with the brand names of Clenil, Pulmicort and Flixotide.

How Do You Use Grey Asthma Inhalers?

The grey-capped asthma inhaler is an inhaled anticholinergic. Anticholinergics slow down bronchoconstriction and mucus production. Inhaled anticholinergics are preventers for use at regular intervals. Anticholinergics contain Ipratropium bromide with the trade name Atrovent.

What Colors are Combination Asthma Inhalers?

Combination inhalers are long-acting bronchodilators with an inhaled steroid combination. Use these inhalers at regular intervals; the inhalers do not have a reliever effect. The purple inhaler contains fluticasone and salmeterol with the brand name Seretide, and the red inhaler contains budesonide and formoterol with the brand name of Symbicort.

All asthma inhalers are not the same. Know the color codes of asthma inhalers for quick assistance during an asthma attack or to provide appropriate preventive care. Asthma inhaler colors simplify the various uses of different asthma inhalers and lessen confusion as you deal with a condition that relies on quick action and consistent care for treatment.

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Reliever inhaler



Everyone with asthma should have a reliever inhaler. Reliever inhalers are usually blue.

Relievers are medicines that are taken immediately to relieve asthma symptoms. They quickly relax the muscles surrounding the narrowed airways. This allows the airways to open wider, making it easier to breathe again.

Relievers are essential in treating asthma attacks. You should take a dose of reliever inhaler when you are having asthma symptoms. If you are using your reliever inhaler three or more times a week, your asthma may not be well controlled and you should go back to your doctor or asthma nurse and have your symptoms reviewed.

Related Topics [reliever inhaler](#) ([/Pages/Search.aspx?IDTag=c5814bf4-b10c-4879-b113-0020a4b444c0](#)), [Treatment](#) ([/Pages/Search.aspx?IDTag=4841bf4e-27c3-4258-b716-0014e5a2c30f](#)), [Advice](#) ([/Pages/Search.aspx?IDTag=06dc250f-a12b-45cf-8a0d-0dce64228780](#)), [Medicines](#) ([/Pages/Search.aspx?IDTag=dd041448-41e5-4d2e-bc72-3d98f579b14d](#)), [blue inhaler](#) ([/Pages/Search.aspx?IDTag=c373e1d1-cd5f-4cdd-8070-91a77e1e08bb](#)), [Reliever](#) ([/Pages/Search.aspx?IDTag=577330f2-53b5-4db8-9eb0-b5bb-f4e384e9](#)), [Health care](#) ([/Pages/Search.aspx?IDTag=06bb699b-7074-4d77-b438-b81a15828856](#)), [Information Standard](#) ([/Pages/Search.aspx?IDTag=70ce147d-e7ab-4b73-8513-cb2da5a14fb0](#))

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Preventer inhalers

Preventers control the swelling and inflammation in the airways, stopping them from being so sensitive and reducing the risk of severe attacks.

Not everyone with asthma will be prescribed preventer medicine.

The protective effect builds up over a period of time so they need to be taken every day (usually morning and evening) even when you are feeling well.

Preventers do not give immediate or quick relief when you are breathless but instead they reduce long-term inflammation. Preventer inhalers usually contain a low dose of steroid medicine.

There are several kinds of preventers, but they all work in the same way. You will be started on an appropriate level of treatment to get your symptoms under control; once this has been achieved the treatment will be reduced to the lowest possible dose.

Preventers are usually brown, red or orange inhalers.

When are preventers prescribed?

You should be prescribed a preventer if you:

- are breathless, cough or have a tight chest during everyday activities three or more times a week
- need to use your reliever inhaler three times a week or more
- have sleep disturbed by cough or chest tightness each week
- have had attacks of breathlessness when you have a chest infection or are in a smoky atmosphere.

What will my preventer do for me?

As the protective effect of the steroid builds up, you will be less likely to have asthma attacks. You will be less likely to be breathless during the day and night and you will not need to use your reliever inhaler as often.

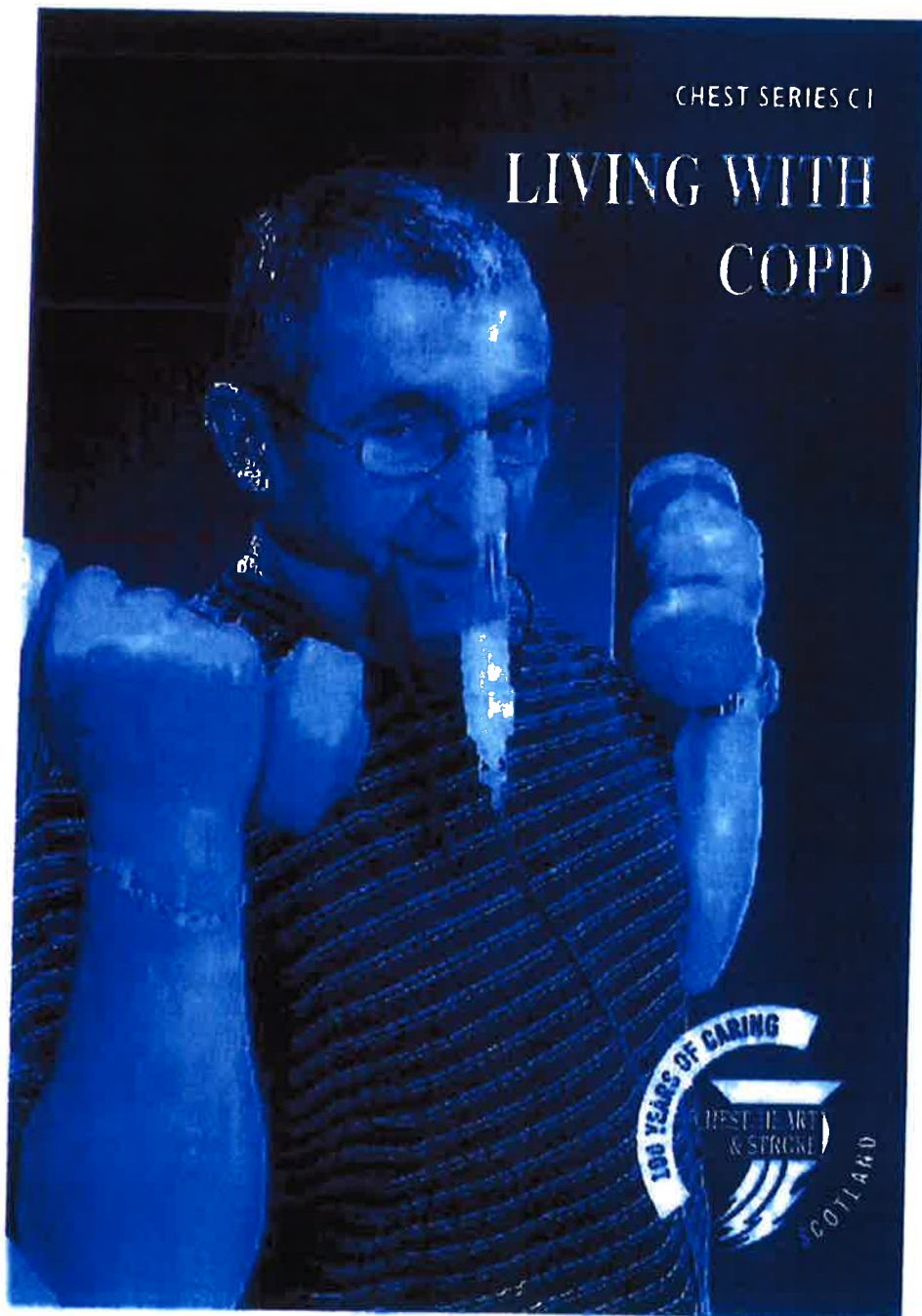
Why is my reliever inhaler not enough?

Reliever inhalers relax your airways, which help breathlessness, but they do not remove airway inflammation. As well as the relaxing effect of a reliever inhaler, you need the anti-inflammatory effect of a preventer. Once airways are less inflamed they are less sensitive to triggers such as cigarette smoke and viral infections.

How long will it take to work?







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LIVING WITH COPD

L I V I N G W I T H

Inhalers

The commonest way of delivering drugs to treat COPD is in inhaler form. This allows the drug to be delivered directly to the part of the body they need to work on i.e. the lungs. There are three main types of inhaler drugs, relievers, preventers and controllers. There are many different types and names of inhalers made by different companies but generally they are colour-coded in a similar way for clarity.

Inhaler	Colour code
Reliever	Blue
Controller	Green
Preventer	Pink / orange / brown
Preventer combination	Purple and red

They all work differently, therefore you are likely to be prescribed more than one inhaler. If you have to take your inhalers together, always use your reliever first.

It is very important that you use your preventer and controller inhalers regularly, as prescribed by your doctor. The effects of these may take a week or two to be noticeable, but if you stop taking them or frequently forget you will not get the proper benefit of your medication.

It is also helpful to make sure you have a spare inhaler to fall back on in case you lose it or it runs out.

The drugs used in the inhalers are usually also available in solution form to be used with a nebuliser.

MEDICAL MANAGEMENT

L I V I N G W I T H C O P D

Relievers

Reliever medication is coded blue.

Relievers are usually quick acting and their job is to relieve breathlessness. Most people with COPD need to have a reliever inhaler. They work by helping the muscle around the airways to relax allowing the air to get into the lungs so they are also known as bronchodilators. It is

important to keep your reliever with you at all times as you never know what might trigger an attack. Salbutamol and terbutaline are very quick acting drugs and for this reason are usually prescribed on an 'as required' basis.

The inhalers in this group are salbutamol and terbutaline.



Metered dose
inhalers

Another type of bronchodilator is ipratropium bromide. It is an anticholinergic bronchodilator and works in a slightly different way to the others in that it takes longer to have an effect. It is prescribed on a regular basis usually four times a day and not 'as required'.

Side effects

Salbutamol can cause a tremor especially noticeable on your hands. Some people may experience palpitations. If these side effects are particularly severe your doctor might reduce the dose or try another bronchodilator inhaler such as terbutaline.

Ipratropium bromide tends to have few side effects but can cause a dry mouth and very

L I V I N G W I T H C O P D

occasionally constipation and difficulty passing urine. Try sipping water throughout the day, which will keep your mouth moist and help to avoid constipation.

Controllers

These inhalers are colour coded green. They are long acting bronchodilators, which are taken twice a day, usually in the morning and at night to control the symptoms of breathlessness. They take about 30 minutes to work but their effects last for 12 hours, so these inhalers will not help during a breathlessness attack.

Examples of long acting bronchodilators are salmeterol and formoterol.

Side effects

Side effects of these drugs are similar to bronchodilators; fine muscle tremor in the hands, palpitations and cramps in hands and feet. In most cases these side effects are quite mild and do tend to resolve over time. However, if the side effects cause you distress, speak to your doctor or practice nurse about them.



Spiriva inhaler

Spiriva

A new inhaler is now available called Spiriva or Tiotropium. It is a long acting anticholinergic and is used as a controller. The benefit is that Spiriva only needs to be taken once every 24 hours. However it cannot be taken with Atrovent (Ipratropium) or Combivent. If you are using either of these they must be discontinued before starting to use Spiriva.

L I V I N G W I T H C O P D

Reliever combinations

Bronchodilator inhalers are also available in combination, to allow you to take two different bronchodilators at the same time. These inhalers are also usually prescribed on a regular basis, for example four times a day. This ensures relief throughout the day.

The inhalers in this group are: Combivent® which is [salbutamol + ipratropium] and Duocent® which is [fenoterol + ipratropium].

Preventers

These inhalers are colour coded shades of pink, orange or brown.

Preventer inhalers contain steroids. The aim of this treatment is to reduce inflammation of the airways, helping them to stay open, preventing breathlessness. They are usually taken twice a day, in the morning and at night. When you are

having a breathless attack, your preventer will not help, you need to use your reliever inhaler.



Dry powder
inhalers

Examples of common steroid or preventer inhalers are: beclomethasone, fluticasone and budesonide.

Side effects:

Steroids can have quite serious side effects, but because inhalers deliver the drug directly to the part of the body that needs it the side effects are usually minor and easy to control. Side effects include voice hoarseness, a sore mouth and/or oral thrush. Making sure that you rinse your mouth out after using this inhaler can minimize

L I V I N G W I T H C O P D

this. If you are unfortunate enough to develop oral thrush, treatment can be obtained from your doctor. Dentures should be soaked overnight in a sterilizing solution to help combat this also.

Preventer combinations

These are colour coded purple and red.

These inhalers are a combination of a preventer and a controller. The most common ones are Seretide® [Fluticasone + Salmeterol] and Symbicort® [Budesonide + Formoterol].

Remember that new medicines are being developed all the time and the names may change. If you are not sure which inhaler does which job, please ask your doctor or practice nurse to go over it with you.

**Check your
inhaler
technique**

Using your inhaler

Inhalers are very effective but only if used correctly. Make sure you know how to use your inhaler and that you are comfortable using it even when you are very breathless. Most GP surgeries have practice nurses who will be happy to help you with your inhaler technique.

Different types of inhalers work in different ways but the principles are the same:

1. Always shake your inhaler well before use.
2. Always make sure you are sitting upright or standing before taking your inhaler.
3. Breathe out to empty your lungs.
4. Put inhaler into your mouth and seal lips around the mouthpiece.

L I V I N G W I T H C O P D

5. When activating inhaler take a slow deep breath in.
6. After filling your lungs try and hold your breath for a count of 10 or as long as you can manage.
7. Breathe out.

Taking care of your inhaler

- Store your inhalers out of direct sunlight.
- Clean the mouthpiece with a dry tissue after use.
- Always replace the mouthpiece cover after use, to prevent dust getting in.
- Follow the manufacturers instructions about washing your inhaler.

Spacers

If you have difficulty either with your inhaler technique or the physical handling of an inhaler you may find a spacer helpful. They are designed for use with aerosol inhalers.

A spacer is a plastic dome with a mouthpiece at one end and a fitting for the inhaler at the other. The inhaler is triggered into the space delivering the dose required. You then have more time and more than one chance of breathing it all in. This also prevents the drug being delivered directly onto the back of your throat helping to reduce side effects, especially those caused by steroids. Instead the drug is delivered more effectively to the lungs. In fact the drug delivery achieved by using your spacer and inhaler correctly can be compared to that achieved using a nebuliser. There are large and small volume spacers

THE  LUNG ASSOCIATION®

ASTHMA HANDBOOK



www.lung.ca



ASTHMA EDUCATOR'S NOTE

The Lung Association's Asthma Handbook is a comprehensive guide that's written in a clear, easy-to-understand style. People with asthma and their caregivers will benefit from the handbook's up-to-date information on the diagnosis and management of asthma, the most common chronic lung condition in Canada. The Asthma Handbook will help you to become an active member of your health-care team, together with your physician and certified respiratory educator.

Jan Haffner, BPT

Certified Respiratory Educator and member of the Canadian Respiratory Health Professionals, The Lung Association



DOCTOR'S NOTE

Asthma is a common disorder of both children and adults. This asthma handbook has been put together to meet the educational needs of those newly diagnosed with asthma.

This handbook is an excellent and timely resource which should be made available as a reference guide to people with asthma and their families. The important, positive message here is that asthma can be managed.

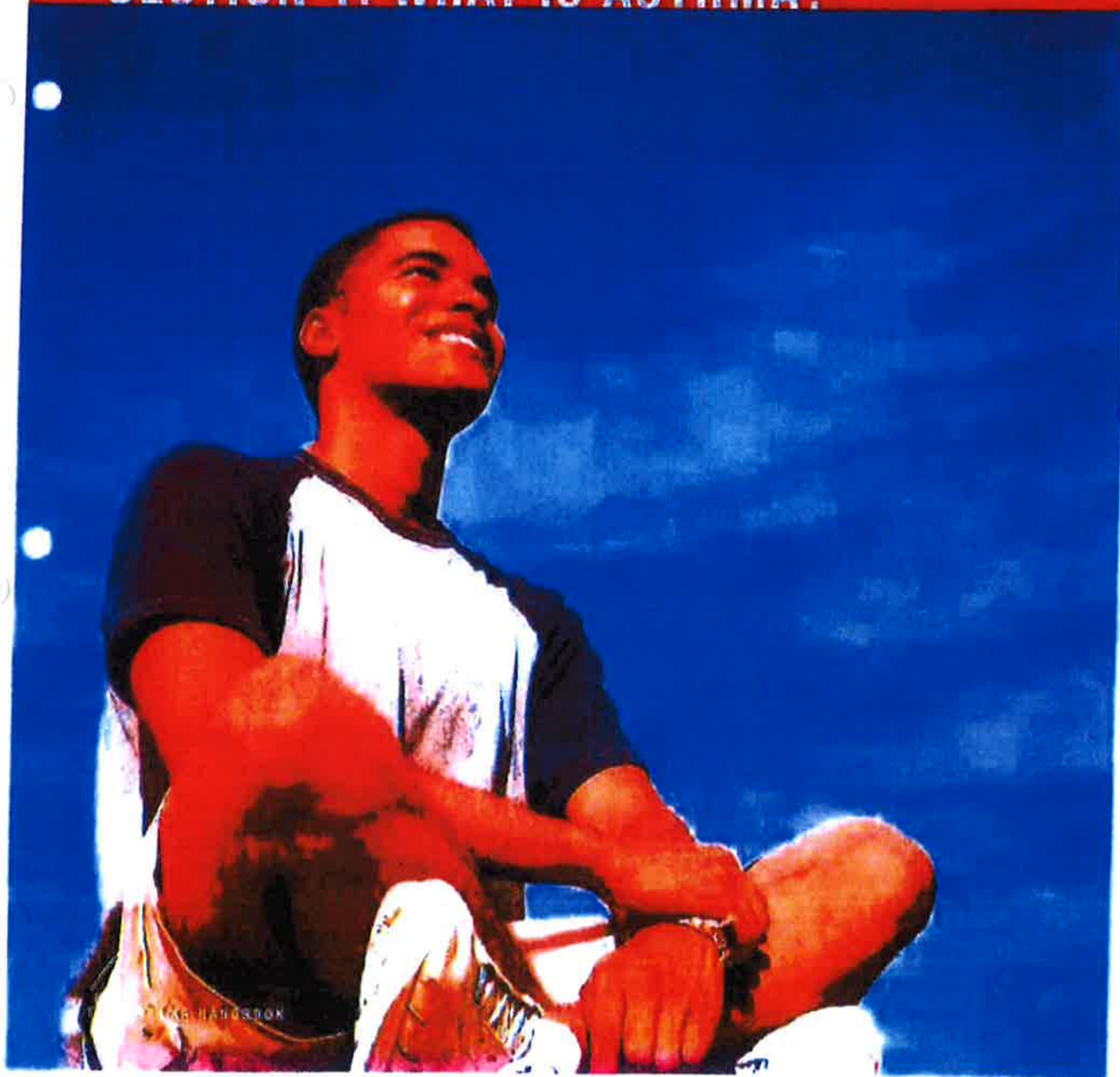
Together in partnership with your health-care team, this handbook will provide you with latest information and resources on asthma management, allowing you to lead a normal, active lifestyle.

Dr. A. McIvor, MD, MSc, FRCP

*Chairman Canadian Thoracic Society Asthma Committee
Professor of Medicine, McMaster University
Firestone Institute for Respiratory Health
St. Joseph's Health Care
Hamilton, Ontario*

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SECTION 1: WHAT IS ASTHMA?



Asthma is a serious lung disease that makes breathing difficult. Asthma is a chronic disease — you have it all the time, even when you are not having breathing problems. Asthma affects almost 3 million children and adults in Canada.

Everyone's asthma is different. Asthma can be mild or severe and even fatal. However, people with asthma can live well when they include lifestyle changes to manage their asthma.

If you have asthma, your airways (breathing passages) are very sensitive. When you are near your triggers, or things that make your asthma worse, your sensitive airways react by becoming red and swollen or inflamed.

- Inflammation or swelling of the airways happens if airways are exposed to triggers. Constant exposure to triggers will cause further swelling of the airways and healing cannot occur.
- Mucus is produced and gathers in the airways; it takes up space and causes further narrowing.
- Bronchoconstriction, or tightening of the muscles around the airways, causes further narrowing.

This narrowing of the airways makes it harder for the air to pass through. When your airways become more red and swollen, they become highly sensitized (may be called "twitchier" or hyperresponsive.)

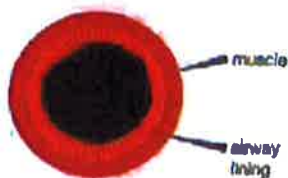
ASTHMA SYMPTOMS

Asthma signs and symptoms can change over time or depending on the situation.

People with asthma often have one or more of these symptoms:

- Wheezing
- Chest tightness
- Coughing
- Feeling short of breath

Normal airways — a person without asthma



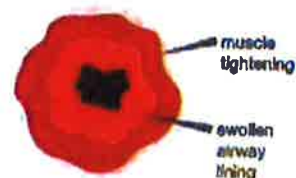
In people without asthma, the muscles around the airways are relaxed and open. There is no swelling and little mucus inside the airways.

Airways of a person with asthma — redness and swelling



In people with asthma, the inside of the airways can get red, swollen and filled with mucus.

Airways of a person with asthma — tightened muscles (bronchoconstriction)



In people with asthma, the muscles around the airways can spasm and squeeze tighter. This leaves less room for air to pass through.

WHAT ARE SYMPTOMS OF ASTHMA?

Common symptoms of asthma are coughing, wheezing (or whistling in the chest), chest tightness (feels like someone is sitting on your chest) and shortness of breath. People with asthma often have one or more of these symptoms.

HOW IS ASTHMA DIAGNOSED?

Only your doctor can decide if your breathing problems are due to asthma. Your doctor will:

- **Take a detailed medical history.** You will be asked detailed questions about you and your family's medical histories and your breathing problems.
- **Do a physical examination.** This may include listening to your lungs and checking inside your nose.
- **Test your breathing by using spirometry.** Spirometry is a quick, simple breathing test that measures how much air you can blow out of your lungs. For this test, you'll be asked to blow long and hard through a tube attached to a small machine. The machine will show how much air you can push out of your lungs and how fast. Because spirometry takes some coordination, children under five years old are not usually asked to do this test.

Your doctor may order other tests:

- **a chest x-ray** and lab tests
- **allergy tests:** Your doctor may refer you to an allergist, who will test for specific allergies and ask what your symptoms are and when you notice them. Usually allergists use a "skin prick" test. This may help to find out what allergies make your asthma worse.
- **challenge tests:** These tests are done in a hospital. They help to tell the doctor how "twitchy" or hyperresponsive your airways are.

Your doctor may also give you asthma medications to try. If these medications make your symptoms go away, this may help to make the diagnosis of asthma.

With a proper diagnosis, your doctor and asthma health-care team can help you manage your asthma.

HOW DO YOUR LUNGS WORK?

Your lungs bring oxygen into your body and remove the carbon dioxide and other waste gases that your body doesn't need.

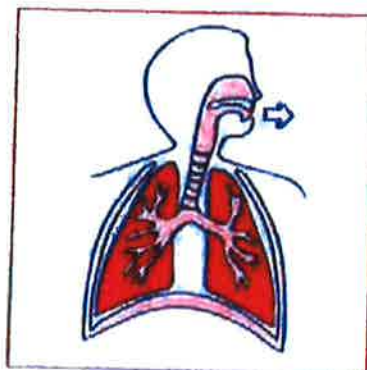
When you breathe in (inhale), you use the muscles of your rib cage — especially the major muscle, the diaphragm. Your diaphragm tightens and flattens, allowing you to suck air into your lungs. To breathe out (exhale), your diaphragm and rib cage muscles relax. This naturally lets the air out of your lungs.

To get the oxygen your body needs, you inhale air through your mouth and nose. The mucus membranes in your mouth and nose warm and moisten the air and trap particles of foreign matter (like dirt and dust). The air then passes through the throat into the trachea (windpipe).

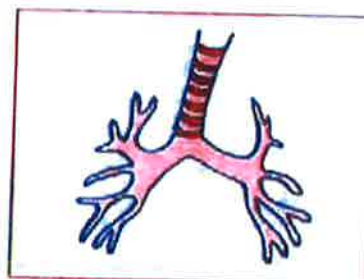
The trachea divides into the left and right bronchi. Like a branch, each bronchus divides again and again, becoming narrower and narrower.

Your smallest airways end in the **alveoli**, the small, thin air sacs that are arranged in clusters like bunches of balloons. When you breathe in by enlarging the chest cage, the alveoli expand as air rushes in to fill the vacuum. When you breathe out, the alveoli relax and air moves out of the lungs.

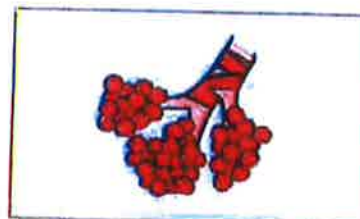
Tiny blood vessels surround each of the 300 million alveoli in the lungs. Oxygen moves across the walls of the air sacs, is picked up by the blood, and is carried to the rest of the body. Carbon dioxide or waste gas passes into the air sacs from the blood and is breathed out.



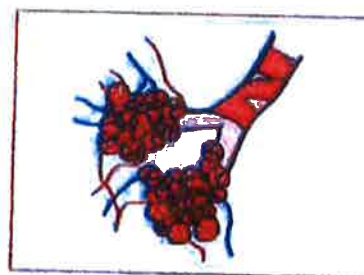
▲ Breathing



▲ Branches of the trachea



▲ The alveoli



▲ Blood vessels of the alveoli

SECTION 2: ASTHMA CAUSES AND TRIGGERS



THE ASTHMA HANDBOOK

Asthma can't be cured but it can be managed. With good asthma management, you should be almost symptom-free and enjoy an active life.

WHAT CAUSES ASTHMA?

The exact cause of asthma is not known. However, experts know that there are some things that make a person more likely to get asthma:

Family history

Asthma tends to run in families. If you or people in your family have allergic diseases such as asthma, hay fever, or eczema, there is a higher chance you will have asthma.

Air pollution indoors and out

Kids whose mothers smoked while pregnant, who grow up in a smoky house, or whose grandmothers smoked, are all more likely to get asthma. Mould in your home may also increase your chances of developing asthma. Some research shows that people who live near major highways and other polluted places are more likely to get asthma.

Work-related (or occupational) asthma

If you work in a place with polluted air, there is a greater chance you will have asthma. If your symptoms improve when you aren't at work or are away from work for an extended period of time, then talk to your doctor. People who work in certain types of jobs can get asthma from things they work with (for example, latex, certain types of dust, spray paints, metals and fumes.)

Viral infections

Sometimes your breathing problems may get worse if you have a cold or flu. Asthma symptoms may last up to six weeks after an infection. For some children, a viral infection can sometimes lead to the development of asthma.

Other possible factors

Sinusitis is an inflammation of the sinuses. Many people with asthma also have sinusitis. If you have both, you may notice that when your sinusitis flares up, your breathing problems from asthma also increase.

Rhinitis or hay fever is an inflammation of the tissue in the nose usually due to an allergy. Treatment of the rhinitis often improves the asthma.

SECOND-HAND SMOKE

Second-hand smoke hurts everyone's lungs. For people with asthma, exposure to second-hand smoke may cause:

- a worsening of symptoms
- increased medication use
- more emergency room visits

Gastro-esophageal reflux disease (GERD), better known as heartburn, is inflammation due to stomach acid backing up into the esophagus (the main tube leading from the mouth to the stomach). The stomach acid may cause breathing problems when it comes in contact with the lining of the throat and airways.

Excessive cleanliness in homes may account for the increase in asthma rates. This theory suggests that when infants and toddlers are raised in very clean homes, their immune systems don't learn how to handle common germs and irritants. When they are exposed to these germs later in life, their immune systems over-react and the result is asthma.

WHAT ARE ASTHMA TRIGGERS?

A trigger is something that makes your asthma worse by irritating your airways. This makes it hard for you to breathe. By knowing what triggers your asthma and by avoiding those things, you can help to control your asthma.

Asthma triggers cause symptoms that:

- usually come on suddenly
- may not last very long
- may be easy to relieve with rescue medication (blue puffer)

Each person will have her or his own set of asthma triggers. Common asthma triggers include smoke, fumes, certain weather conditions, air pollution, strong emotions, exercise, allergies, workplace factors, and viral infections. The following table offers more information on asthma triggers.

COMMON ASTHMA TRIGGERS AND HOW TO AVOID THEM

Exercise

People with asthma should exercise.

However, exercise is a trigger for many people if asthma is not under good control.

- Make sure you have good asthma control before exercising.
- Warm up slowly before exercising and cool down afterwards.
- Keep your blue puffer close by.
- Follow your asthma action plan; take your blue puffer before or during exercise.
- Gradually exercise for longer and longer to get in better shape.

Emotional upsets, anxiety

Feeling fear, stress, excitement, worry or anger can make asthma worse.

Feeling anxious about getting an asthma attack can also make your asthma worse.

If you know what to do if you are having breathing problems, you can feel more in control and less anxious.

- Take your blue puffer as directed.
- Try some relaxation and breathing techniques.
- Ask a certified asthma educator for help in dealing with anxiety about asthma. A certified asthma educator can help you understand your asthma, what to expect, and what to do if you feel symptoms coming on.
- See your doctor for more advice on how to cope if you have a lot of stress and your asthma is getting worse. People who learn how to relax and control their stress can have fewer asthma symptoms.

Scents

Strong smells from perfume and cologne, fabric softener, air fresheners and many other products can make breathing worse.

- Avoid using perfumes. Ask the people you live or work with to avoid them as well.
- Make sure your soap, body lotion, shampoo and cleaning detergents are scent free.

Hormones

Some women notice more breathing problems at the time of their period.

Pregnancy also can affect asthma symptoms.

- Follow your asthma action plan (see page 17 for a sample plan) if you're having trouble.
- Pay special attention to your asthma during pregnancy.
- For more information, see **Section 6: Asthma and Pregnancy**.

SECTION 2: ASTHMA CAUSES AND TRIGGERS

Fumes and pollution

There are many sources of fumes, indoors or outdoors. Smoke from fireplaces, grills and wood heaters contains many harmful chemicals. Wood smoke can cause breathing problems right away and make asthma worse over time.

Exhaust fumes from cars and trucks can also trigger asthma symptoms and cause long-term damage to lungs.

Household chemicals with strong fumes (for example, cleaning products, glue and paint) can trigger symptoms.

- If at all possible, do not heat your home with wood. If you must heat with wood, visit our website (www.lung.ca) for tips on how to improve the safety and efficiency of your wood-burning appliance.
- Avoid outdoor bonfires and other open burning.
- If possible, avoid spending a lot of time in places that are less than 150 meters (500 feet) from a busy road or near a road used by diesel trucks.
- Use safe, environmentally-friendly cleaning products, such as vinegar and baking soda.
- Wear a protective mask when dealing with chemicals.

Cold air

Outdoors or at an ice rink

- Drape a scarf loosely over your nose and mouth to warm and humidify the air before you breathe it in. You can also buy a cold-weather face mask made for this purpose.
- Breathe through your nose. Your nose can warm and moisten the air.
- If your doctor recommends it, take a puff of your blue puffer before you go outside.

Hot, humid air

- Stay indoors in an air-conditioned room, especially on days that are smoggy or have a high pollen count.

Smoke and second-hand smoke from cigarettes, cigars, pipes and marijuana

Smoke hangs around long after the cigarette is out. Smoke stays in your clothes, hair, curtains, furniture, walls and stuffed animals.

Smoke that's trapped in all these places continues to make asthma worse.

- Don't smoke. If you do smoke, ask your doctor for help to quit.
- If you live with a smoker, be supportive of his or her efforts to quit. But be firm about your need for a smoke-free home.
- Ask your family and friends to smoke outside your home and car.
- Talk to your employer about ways to make your workplace smoke-free.
- Stay away from smoky places, such as bars and clubs. Ask for smoke-free rooms when travelling.

Most people's triggers are inhaled (breathed in). But asthma symptoms may also be triggered by things you eat, drink, or swallow. For example:

- sulphites (used to preserve some food, such as dried fruit and red wine)
- monosodium glutamate (MSG is a flavour enhancer in some foods)
- Aspirin (never let a child or teen take aspirin)

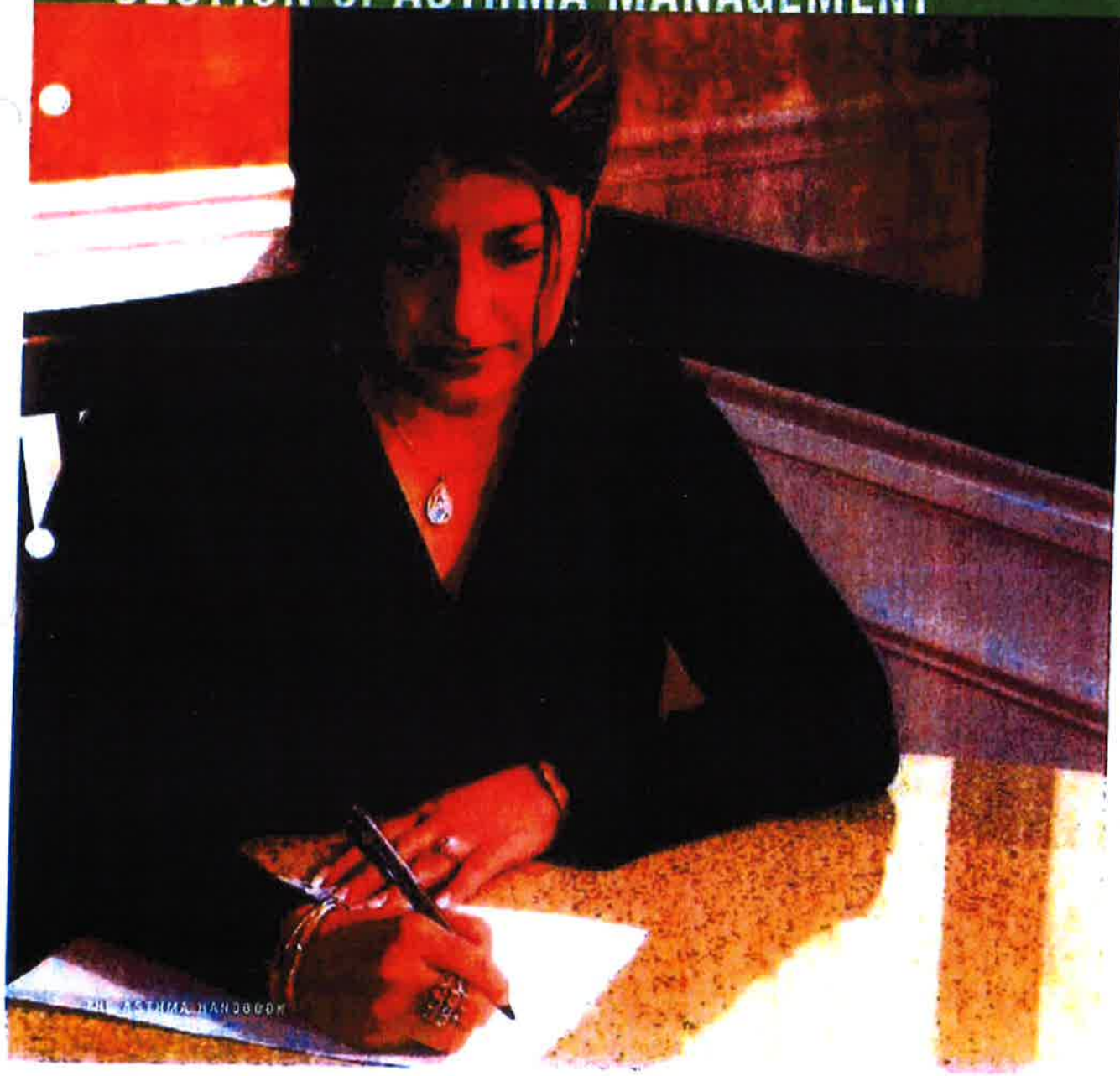
Some people with asthma also have food allergies. People with any allergy that causes severe symptoms that could be life-threatening (anaphylactic shock) should keep their EpiPen with them at all times.

Although triggers bring on the symptoms of asthma in someone who already has the disease, they do not cause asthma. Things that cause asthma are called inducers. Inducers, such as cold and allergies, can make your airways swollen, red and filled with mucus. If you avoid your asthma inducers, you'll have fewer asthma symptoms.

Common asthma inducers include:

- viral infections (colds and the flu.)
- allergies (Read more about allergies in Section 5.)

SECTION 3: ASTHMA MANAGEMENT



Because asthma is a chronic disease, you must manage it at all times, even when you feel fine. When you manage your asthma well, you can:

- lead a normal life
- sleep well without interruptions
- exercise
- do the activities you want to do
- attend work or school without interruption

If you have a lot of symptoms or asthma attacks, your asthma is not under proper control. Ask your doctor or certified asthma educator for help.

HOW DO YOU KNOW IF YOUR ASTHMA IS WELL MANAGED?

Take the 30 Second Asthma Test®:

- | | | |
|---|------------------------------|-----------------------------|
| Do you cough, wheeze, or have a tight chest because of your asthma?
(4 or more days a week) | ☐ YES | ☐ NO |
| Does coughing, wheezing, or chest tightness wake you at night?
(1 or more times a week) | ☐ YES | ☐ NO |
| Do you stop exercising because of your asthma?
(In the past 3 months) | ☐ YES | ☐ NO |
| Do you ever miss work or school or social activities because of your asthma?
(In the past 3 months) | ☐ YES | ☐ NO |
| Do you use your rescue medication (blue puffer) 4 or more times a week?
(Except 1 dose per day for exercise) | ☐ YES | ☐ NO |

If you answer YES to one or more questions, talk to your doctor or certified asthma educator about how you can better manage your asthma.

The 30 Second Asthma Test® is a registered trademark, used under license by GlaxoSmithKline Inc.

HOW TO MANAGE YOUR ASTHMA

1. Educate yourself about asthma.
2. Use your asthma action plan when you have breathing problems.
3. Use a diary form to record your symptoms.
4. Avoid triggers.
5. Take your medications as directed by your doctor.
6. Use your medication delivery device properly.
7. Avoid getting the flu, colds and viral infections.
8. Exercise regularly.

1. Educate yourself about asthma.

The information found in this handbook is based on current Canadian guidelines for the management of asthma. These guidelines were developed by a group of family doctors and lung specialists from across Canada. To learn more about asthma, you can also talk to a certified asthma educator, who has special training in asthma management. To find a certified educator, call The Lung Association nearest you (1-888-566-LUNG).

2. Use your action plan when you begin to have breathing problems.

Your asthma action plan is a written set of instructions developed with your doctor. It explains what medication you should be taking on a regular basis when you are feeling well and how to increase your medication if you start to have breathing problems. Your asthma action plan takes the guesswork out of what your symptoms mean. Studies show that people who use their asthma action plan have better asthma control.

Ask your doctor or health-care provider to fill out the asthma action plan on the next page with you. Make sure you understand what the plan means. If you have any questions, ask your doctor. You can also discuss your action plan with a certified asthma educator.

An asthma action plan can be used with or without a peak flow meter to help you manage your asthma. A peak flow meter is a handheld tool that measures how fast you can blow air out of your

MY ASTHMA ACTION PLAN

Name _____

Doctor _____

Date _____

Doctor's Phone Number _____

GREEN LEVEL My asthma is under control.

SYMPTOMS

- My breathing is normal.
- I have no trouble sleeping.
- I'm not coughing or wheezing.
- I can do all my normal activities.

WHAT SHOULD I DO?

I should continue using my normal medications as directed by my doctor, and re-measure my peak flow every _____ weeks / months.

PEAK FLOW

_____ to _____ (80% to 100% of your personal best)

Medication	Dose	Take it when?

YELLOW LEVEL My asthma is getting worse.

SYMPTOMS

- I have symptoms, like wheezing or coughing, with activity or at night. They go away when I use my reliever.
- I'm using my reliever more than _____ times a week/day.
- I can't do many of my usual activities.

WHAT SHOULD I DO?

A problem is beginning. I should increase my medication as specified below until I am in the green level for _____ days or more. If my symptoms do not improve within 4 days, I will call my doctor.

PEAK FLOW

_____ to _____ (60% to 80% of your personal best)

Medication	Dose	Take it when?

RED LEVEL I am having an asthma emergency.

SYMPTOMS

- My breathing is difficult.
- I'm wheezing often when resting.
- I'm having difficulty walking and/or talking.
- My lips and/or fingernails are blue or grey.
- My reliever does not help in 10 minutes OR is needed every 4 hours or more.

WHAT SHOULD I DO?

I NEED TO GO TO THE HOSPITAL EMERGENCY RIGHT AWAY.

I SHOULD USE MY RELIEVER AS MUCH AS I NEED TO ON THE WAY THERE.

PEAK FLOW

_____ to _____ (less than 60% of your personal best)

lungs. This measurement is called your peak flow rate. The more open the airways are (the easier it is to move air in to and out of the lungs), the higher the peak flow number will be.

A peak flow meter is useful for tracking whether your asthma is under control. However, a peak flow meter is not for everyone. Talk to your doctor to see if a peak flow meter can help you manage your asthma.

3. Use a diary form to record your symptoms.

A diary form can help you keep track of your symptoms on a daily basis. Working with your doctor (or certified asthma educator), you can use your diary form to see if there is a pattern to your asthma symptoms (for example, are there certain days or times when your asthma is worse?). The diary form can show if changes to your asthma medications are relieving your breathing problems. If you use a peak flow meter, a diary form can also show trends in your peak flow rates and warning signs for worsening asthma (shortness of breath, coughing, wheezing and chest tightness), which can help you to manage your asthma.

How should I use a diary form?

To help track your symptoms or breathing problems, use numbers from 1 to 3 (where 1 means symptoms are barely present, 2 means symptoms are obvious, 3 means symptoms interfere with normal activity). Place the number in the time of day when you have the breathing difficulty. For example, if you have some shortness of breath while awake on Thursday, you would put a 1 in the box under Thursday day.

You should also list the asthma medications that you take in the asthma medications section. Record when you take each medication. For example, if you take your anti-inflammatory while awake on Thursday, you would put one check in the box under Thursday day. If you take it two times while awake on Thursday, you would put two checks in the box under Thursday day.

HAVE YOUR SYMPTOMS DISAPPEARED?

If you are symptom-free, talk to your doctor. Your doctor may slowly reduce your medication (according to your asthma action plan) and you may eventually not have to take it. However, you should always carry a rescue inhaler just in case.

4. Avoid your triggers.

Each person has specific triggers. Know your triggers so you can avoid them. Follow the suggestions listed in Section 2: Asthma management.

5. Take your medications as directed by your doctor.

It is important to take your asthma medications exactly as prescribed by your doctor. You should always have a filled prescription. You always have asthma, even if you are feeling okay and you aren't having breathing problems. That's why it is important to keep taking your medication.



MY ASTHMA DIARY FORM

Name _____

Doctor _____

Date _____

Doctor's Phone Number _____

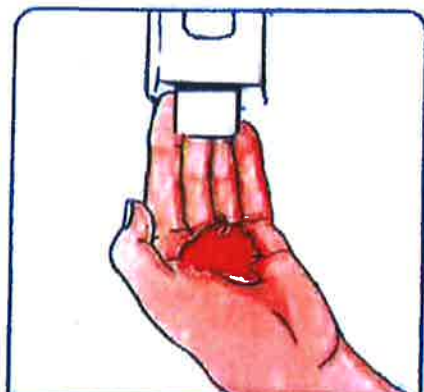
	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SYMPTOMS	Day Night	Day Night	Day Night	Day Night	Day Night	Day Night	Day Night
Shortness of breath							
Coughing							
Wheezing							
Chest tightness							
OTHER	Day Night	Day Night	Day Night	Day Night	Day Night	Day Night	Day Night
Missed work due to asthma							
Saw a doctor for asthma symptoms							
Went to emergency because of asthma							
PEAK FLOW READINGS	Day Night	Day Night	Day Night	Day Night	Day Night	Day Night	Day Night
500							
400							
300							
200							
100							
0							
ASTHMA MEDICATIONS	Day Night	Day Night	Day Night	Day Night	Day Night	Day Night	Day Night

LEGEND 1 Symptoms are barely present 2 Symptoms are obvious 3 Symptoms interfere with normal activity

FIGHT GERMS BY WASHING YOUR HANDS!



1 Wet your hands



2 Soap

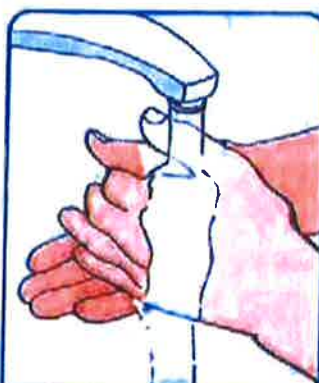


3 Lather and scrub - 20 sec

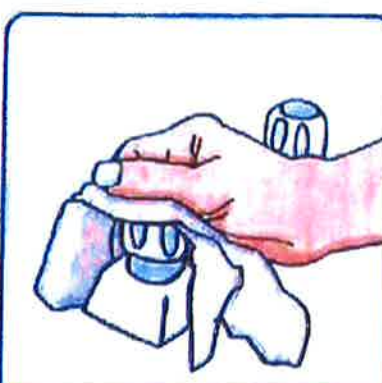


DON'T FORGET TO WASH:

- between your fingers
- under your nails
- the tops of your hands



4 Rinse - 10 sec



5 Turn off tap



6 Dry your hands

If you have questions about the medications or how to take them properly, talk to your doctor. Taking your medication regularly means you can avoid asthma emergencies. You can find more information about asthma medications in Section 4.

6. Use your medication device properly.

If all the asthma medication is not getting to where it is needed in the airways, it is not helping you manage your asthma. Ask your doctor or certified asthma educator to watch you take a puff of your medication. They may offer suggestions on how to improve your technique so that the medication is delivered more effectively to your lungs.

7. Avoid getting the flu, colds and viral infections.

Viruses, such as the cold and the flu, can infect your airways and lungs. Viral infections can produce asthma symptoms, especially in children. If you have a runny nose or cough up mucus from your lungs, you may have a virus. If you have a virus, pay attention to your symptoms. If your symptoms get worse, follow the directions in your asthma action plan.

Here are some ways to prevent viral infections:

Get a flu shot each fall. Flu shots provide some protection against influenza (the flu) that is caused by viruses. (Note: if you have an allergy to eggs, you should not get the flu shot because eggs are used to make the flu vaccine. Ask your doctor about your options.)

Wash your hands. Proper hand washing can help reduce the spread of infection, including the flu. Always wash your hands:

- before eating or preparing meals
- before breastfeeding
- after using the toilet
- after helping your child use the toilet or changing a diaper
- after blowing your nose or wiping your child's nose

8. Exercise regularly.

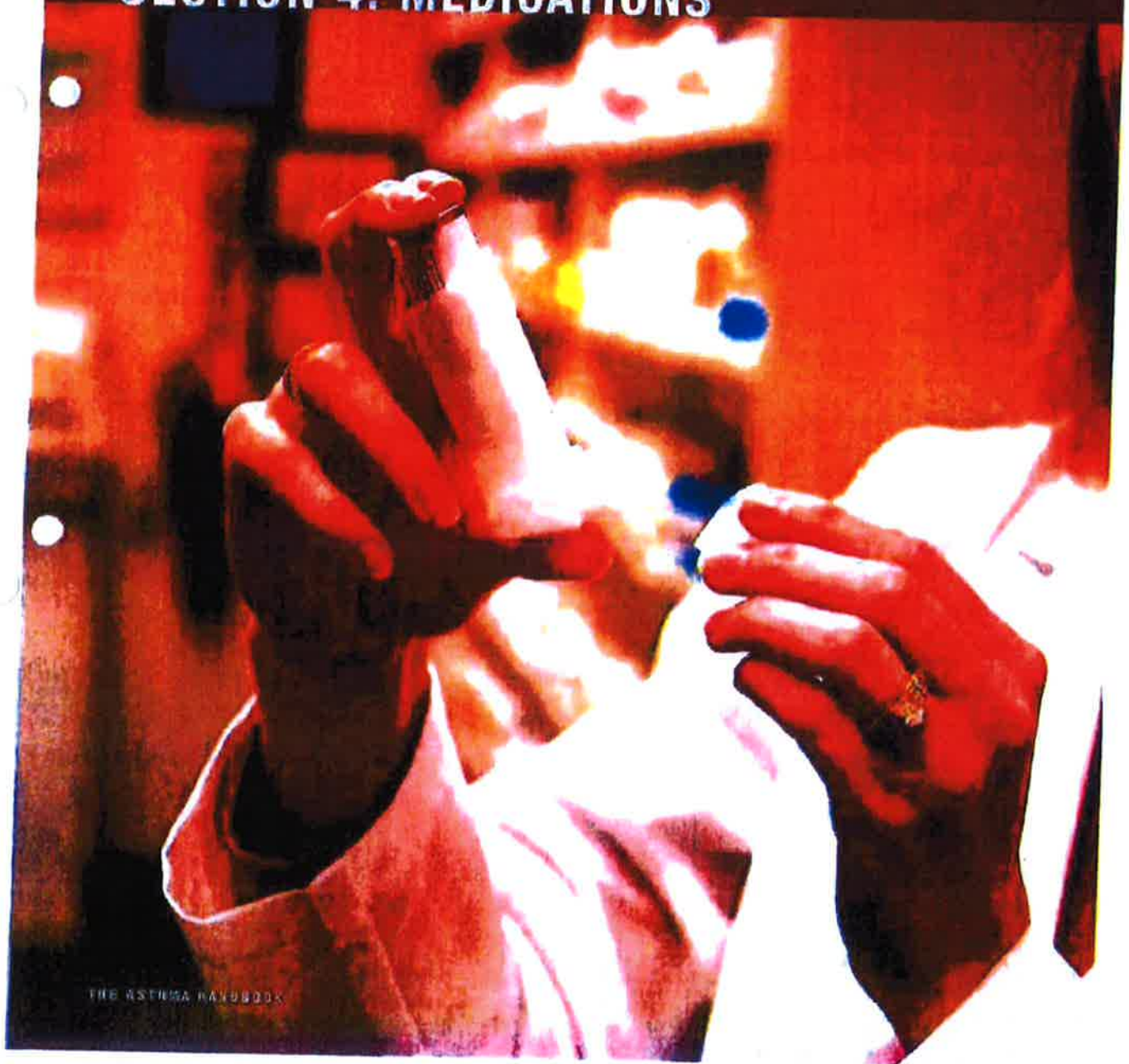
People with asthma can exercise safely. In fact, regular exercise can strengthen your immune system and help you fight off colds and infections. Exercise should not be avoided due to the asthma. For more information on **Exercise and Asthma**, see Section 7.

SHOULD YOU SEE A SPECIALIST?

Talk to your doctor about a referral to a specialist if:

- You are taking asthma medications and avoiding triggers but your asthma is not getting better.
- You think your work environment may be making your asthma worse.
- You have been admitted to the hospital or gone to the emergency room because of your asthma.

SECTION 4: MEDICATIONS



THE ASTHMA HANDBOOK

There are many safe, effective medications that can help you manage your asthma. You need a doctor's prescription for these medications. You also need special advice on when and how to use each kind of medication.

Because asthma symptoms may change — for better or worse — you need to know how to adjust your medications accordingly. An asthma action plan will describe how to adjust your medication depending on your symptoms.

Some asthma medication can be inhaled (breathed into your lungs) or swallowed. The preferred route is inhaled **because** the medication goes directly in to the lungs and there are fewer side effects.

Preventer and rescue medications work together

There are two main kinds of asthma medications: preventer medication and rescue medication. Each medication is important. Each medication does a different thing for your lungs. For most people with asthma, the doctor will prescribe both kinds of medication:

Asthma preventer medication: Take your preventer medication every day, even if you have no symptoms, to prevent redness, mucus and swelling.

Asthma rescue medication: Keep your rescue medication on hand and take it only when you need it — during an asthma attack, if your breathing gets bad, or before exercising.

Some people think they can skip the preventer medication and only use the rescue medication. This is dangerous. If you've been prescribed a preventer medication, use it. The rescue medication alone won't control your asthma over the long term.

To make sure you get all your medication into your lungs, be sure you know how to properly use your inhalation device (metered-dose inhaler, spacing chamber, Turbuhaler, Diskus, etc.).

HOW DOCTORS AND CERTIFIED ASTHMA EDUCATOR CAN HELP.

Your doctor, pharmacist or certified asthma educator can also:

- explain how each of your asthma medications works
- answer your questions
- show you how to use your medication inhalation device (your metered-dose inhaler, spacing chamber, Turbuhaler, Diskus etc.)
- teach you how to use a peak flow meter to monitor your breathing, if needed.

ASTHMA PREVENTER MEDICATIONS

It's really important to take your preventer medication as directed, even when you don't have symptoms. Without your preventer medication, you'll be more sensitive to your triggers and more likely to have an asthma attack.

If you take your preventer medication as directed:

- Your asthma will be better controlled.
- You will help prevent asthma attacks.
- You won't need to use your rescue medication (blue puffer) as often.
- Your rescue medication will work better and faster because your lungs will be in better shape.

Preventer medication:

- needs to be taken regularly every day to be effective
- will not help right away in an asthma attack
- usually acts slowly
- works over the long term
- reduces swelling and mucus in your lungs

There are different kinds of preventer medications:

- inhaled corticosteroids
- corticosteroid pills
- long-acting bronchodilators
- leukotriene receptor antagonists
- theophylline

Inhaled corticosteroids

Inhaled corticosteroids are the most common and effective type of asthma preventer. They reduce swelling in the airways. They are inhaled, not swallowed, so they go straight to your lungs and give you fewer side effects than pills. To get the most out of your medication, it's important that you know how to use your inhaler device.

Corticosteroids for asthma are not the same as the muscle-building steroids that are banned by some sports organizations. Inhaled corticosteroids are similar to the steroids that are naturally produced in your body. You need more of these steroids to reduce and prevent swelling in the lungs. Inhaled corticosteroids don't have the same risks or effects as the muscle-building steroids.

Examples of inhaled corticosteroids: budesonide (**Pulmicort®**), fluticasone (**Flovent®**), ciclesonide (**Alvesco®**).

What inhaled corticosteroids do: Reduce the inflammation (swelling, redness) and mucus in your airways.

Side effects of inhaled corticosteroids: For a full list, see your doctor, pharmacist or certified asthma educator. In most cases, inhaled corticosteroids have few side effects and are considered to be safe with the dose needed to control asthma.

Some side effects include:

- hoarseness and sore throat.
- thrush or yeast infection (looks like a whitish layer on your tongue).

Corticosteroid pills

Sometimes the swelling and mucus in your airways is severe — this may be caused by a chest infection or for some other reason. In cases of severe airway swelling, your doctor may prescribe corticosteroid pills. Corticosteroid pills basically do the same thing as inhaled corticosteroids but they are more powerful. Doctors often prescribe these pills for a short time to get the swelling and mucus under control quickly. Keep taking your regular asthma medication in addition to these pills unless your doctor tells you otherwise. Tell your doctor if you have taken corticosteroid pills in the last two years.

Examples: Prednisone, Prednisolone (**PediaPred®**), and Dexamethasone (**Decadron®**).

What corticosteroid pills do: Reduce the swelling, redness and mucus in the airways.

Side effects: For a full list, see your doctor, pharmacist or certified asthma educator.

For prescriptions lasting three to seven days, side effects may include:

- increased appetite
- mood changes
- water retention
- hyperactivity in children

PREVENTING THRUSH

You can easily prevent thrush by rinsing your mouth, gargling and spitting out the water after using your puffer. Your doctor can adjust your dose so you get the best asthma control using the least amount of medication.

For prescriptions lasting longer, side effects may include:

- increased appetite
- weight gain
- stomach irritation
- bone thinning

Note: Because your body can go into withdrawal if you suddenly stop taking prednisone, your doctor will tell you to slowly decrease your dose.

If your asthma is not controlled by using only inhaled corticosteroids, your doctor may add another preventer medication, such as a long-acting bronchodilator or leukotriene receptor antagonist. These preventers also need to be taken regularly.

Long-acting bronchodilators

Long-acting bronchodilators are inhaled medications. They are always prescribed with inhaled corticosteroids and should not be taken alone. Because long-acting bronchodilators take many hours to open your airways, they should not be used as rescue medication. You should keep taking your inhaled corticosteroids while taking long-acting bronchodilators.

Examples: salmeterol (Serevent®), formoterol (Foradil®, Oxeze®).

What long-acting bronchodilators do: Help keep airways open and muscles relaxed, preventing asthma attacks. Long-acting bronchodilators work slowly, over a 12-hour period.

Combined inhaled corticosteroids and long-acting bronchodilators

If you need to have both a corticosteroid and a long-acting bronchodilator, your doctor may prescribe one inhalation device that has both of these medications in it. This makes it easier to take both your medications on a regular basis.

Examples of combination asthma medications

- **Symbicort®:** made of a corticosteroid (budesonide / Pulmicort®) plus a long-acting bronchodilator (formoterol / Oxeze®)
- **Advair®:** made of a corticosteroid (fluticasone / Flovent®) plus a long-acting bronchodilator (salmeterol / Serevent®).

Leukotriene receptor antagonists

If you are already taking inhaled corticosteroids, your doctor may also prescribe a leukotriene receptor antagonist to relieve your asthma symptoms. By adding this medication, your doctor may be able to slowly reduce your dose of corticosteroids and still keep your asthma under control.

Leukotriene receptor antagonists come in pill form. Not everyone will respond to leukotriene receptor antagonists. Your doctor will monitor your response for the first six to eight weeks of treatment.

Examples: zafirlukast (**Accolate**®), montelukast (**Singulair**®).

What leukotriene receptor antagonists do: Help reduce inflammation or swelling in airways and keep airways muscles relaxed. In some people, they have been shown to reduce asthma symptoms triggered by cold air, exercise, allergens and Aspirin.

Side effects: For a full list, see your doctor, pharmacist or certified asthma educator. In general, side effects are very rare. Occasionally, people may notice these side effects from leukotriene receptor antagonists:

- headache
- dizziness
- heartburn
- upset stomach
- fatigue

Theophylline

Theophylline, a bronchodilator in pill form, is not commonly used in the treatment of asthma. It is taken in the evening if shortness of breath disturbs sleep or regularly if asthma is severe. Theophylline levels can be affected by other medications — make sure that your doctor is aware of all the medications you are taking, including over-the-counter drugs.

Examples: TheoDur®, Uniphyll®, Phyllocontin®, TheoLair®.

What theophylline does: Works directly on the airway muscle to relax it, making it easier for you to breathe.

Side effects: For a full list, see your doctor, pharmacist or certified asthma educator.

Some common side effects include:

- diarrhea
- nausea
- heartburn
- loss of appetite
- headaches
- nervousness
- rapid heart beat
- upset stomach

The right dose must be determined and monitored regularly by your doctor. Do not increase the dose on your own.

Antibody Neutralizers

Antibody neutralizers are used in specific cases when moderate to severe asthma is triggered by allergies and inhaled steroids are not helping. Antibody neutralizers work by decreasing the amount of the antibody (the substance in your body that causes airways to become swollen when you have an allergic reaction).

Example: Xolair®.

ASTHMA RESCUE MEDICATIONS

Usually, you take rescue medication only when you need them (when you have symptoms or before exposure to a trigger). You may also take some before exercising. It's important you keep your rescue medication close by so it's there when you need it.

If your asthma is under control, you won't need to take rescue medication more than three times a week (except once a day before exercise). If you use your rescue medication more than three times a week, tell your doctor.

Rescue medication:

- helps during asthma attacks — take it right away
- is usually in a blue puffer
- acts quickly
- reduces the effects of asthma triggers, such as exercise and cold air
- makes your tight airway muscles relax

Fast-acting bronchodilators

You take fast-acting bronchodilators only as needed:

- for quick relief during an asthma attack (you should feel relief within five to 10 minutes)
- for relief of symptoms, such as cough, chest tightness, wheezing and shortness of breath
- fifteen minutes before exercising, as prescribed by your doctor

Examples: salbutamol (Ventolin®, Apo-Salvent®, Novo Salmol®, Gen-salbutamol®, Alti-Salbutamol®, Airomir®) fenoterol hydrobromide, terbutaline sulfate (Bricanyl® inhaler).

Side effects: For a full list, ask your doctor, pharmacist or certified asthma educator. Some common side effects include:

- trembling
- nervousness
- flushing
- increased heart rate

If you are using your fast-acting bronchodilators too often (more than three times a week except for once a day with exercise), your airways are inflamed (swollen and red) and need treatment. Use your asthma action plan and follow the instructions. You may need to increase your asthma preventer medication or add another medication until your asthma is under good control.

REMEMBER...

- Keep taking your asthma medication as instructed by your doctor. This medication is necessary and scientifically proven to keep you healthy.
- Always tell your doctor if you are considering taking or are taking any other medication or alternative remedies of any sort. You have to make sure that these medications or remedies do not interfere with your asthma medication.

COMMONLY ASKED QUESTIONS ABOUT ASTHMA MEDICATIONS

What are the different devices I can use to take my asthma medication?

Many medications are inhaled through a specific device. A device is a tool or instrument that is used to deliver medication to your lungs (for example, a puffer). There are two classes of devices available today:

- MDI (metered-dose inhaler or puffer), used with a spacer
- Dry powder inhalers (Turbuhaler, Diskus, or Aerolyzer)

Your doctor or a certified asthma educator can discuss which device best suits your needs. You should regularly review how to use your device with your doctor or certified asthma educator or pharmacist to ensure the medication is getting where it is needed — to your airways.

Should I use a nebulizer to take my medication?

Inhalers are the most common method of getting medication into your lungs. When an inhaler cannot be used, a nebulizer or compressor is another way in which you can take medications. A liquid form of the medication is placed in a container attached to a tube. The nebulizer changes the medication from a liquid to a mist. It can take up to 20 minutes of breathing mist from a nebulizer to get the same dose of medication as you would receive from one or two puffs from an inhaler.

What other drugs can affect my asthma?

Make sure your doctor knows all of the medications you are taking, even over-the-counter drugs and alternative remedies. Check with either your doctor or certified asthma educator or respiratory educator before you start any new treatment.

Drugs that could affect your asthma include:

- Medications containing Aspirin or acetylsalicylic acid (ASA), such as cold remedies, painkillers and medications used for arthritis and muscle pain, may make asthma symptoms worse for some people.
- Beta-blocking medications, which are used to treat high blood pressure, angina, glaucoma and other conditions, can cause severe asthma attacks.
- ACE inhibitors, which are used to treat high blood pressure, heart disease and other conditions, can cause an increase

of twitchiness in airways. Examples of these medications are **Captopril** and **Lisinopril**.

What are alternative therapies and can they manage my asthma?

Alternative therapies are ways to deal with an illness that are not usually provided by your doctor or other conventionally trained health-care providers. Some examples of alternative therapies are acupuncture, chiropractics, homeopathy, naturopathy, osteopathy, herbal remedies, tai chi, yoga, reflexology, relaxation therapy and aromatherapy. Alternative remedies may be advertised to treat asthma, but most claims are based on testimonials and not scientifically proven.

What is bronchial thermoplasty and can it manage my asthma?

Bronchial thermoplasty is a new procedure being developed as a potential treatment for asthma in adults. It involves use of thermal energy, or heat, to reduce the amount of the muscle surrounding the airway, thereby reducing tightening of the airway muscle that makes breathing difficult. This method has the potential to provide asthma relief to people who do not respond adequately to conventional asthma treatment. However, people who have had bronchial thermoplasty still need to take asthma medications. Bronchial thermoplasty has only been done in adults and is not proposed for use in children under age 18. Presently, this new treatment is only available in research studies.

SECTION 5: ALLERGIES AND ASTHMA



THE ASTHMA HANDBOOK

Many people with asthma have allergies that make their asthma worse. If you have allergies and asthma, it's important to:

- know what you're allergic to
- avoid things you're allergic to
- take any prescribed allergy medications
- know what to do if your asthma is getting worse by following your asthma action plan

An allergy is an abnormal reaction by your body when exposed to things that you are sensitive to. The thing that causes this reaction is called an allergen. Allergens can be inhaled, injected, swallowed or touched. There are different levels of allergies. You may be severely allergic to one thing but only mildly allergic to something else.

ALLERGIC REACTIONS IN PEOPLE WITH ASTHMA

Anybody can get allergies, even people who do not have asthma. If you have asthma, allergens can make your airways red, swollen and filled with sticky mucus. Your airways can react as soon as you're near the allergen as well as a few hours later.

Right away, you can have symptoms such as wheezing and shortness of breath. Your airways are extra-sensitive and they can tighten as soon as you start breathing in allergens. These first symptoms can usually be relieved by rescue medication (blue puffer).

A few hours after you breathe in the allergen, you can feel a second wave of symptoms. These symptoms are caused by your airways gradually swelling (inflammation). Because there's a delay before people feel this kind of symptom, it can be hard to recognize what brought on the reaction. Taking a preventer medication on a regular basis will help prevent this reaction from happening and treat the inflammation when it does happen.

What am I allergic to?

Each person has their own set of allergens. They can be allergic to one or to many things. You might be really allergic to cats, but feel fine around pollens. Another person may be really allergic to pollen and mould, but feel fine around cats.

See your doctor to find out what you are allergic to. Your doctor may refer you to an allergist (a specialist doctor who is an expert on allergies.) The allergist will ask you many questions about your medical history, and your home and work environments (where you live and work, what substances you handle, what floor

ALLERGY SYMPTOMS

Allergies can cause many different symptoms. You may have one or more of these symptoms:

- itchy, watery eyes
- itchy, runny nose
- itchy skin
- eczema (rough, red skin)
- hives (swollen mounds on your skin)
- dark circles under and around the eyes
- recurring headaches
- shortness of breath
- wheeze
- cough
- diarrhea
- stomach cramps

coverings, pets, or plants are in your home, and when you notice your symptoms getting worse). The allergist will also do a skin prick or scratch test to see exactly what you're allergic to.

Skin prick or scratch testing. This test usually takes about 20 minutes. The allergist will put tiny drops of possible allergens on the skin on your arm or back. You may be tested for many allergens at once, so you may have rows of tiny drops on your skin. The allergist will then scratch or prick your skin underneath each drop of allergen, so it can get under your skin. The allergist will watch closely to see how your skin reacts to each scratch. There may be redness and swelling in some spots. Based on your skin's reaction and your medical history, the allergist can tell you what you're allergic to.

You can be mildly or severely allergic to something. You may have a small reaction when you're near one of your allergens, but a more serious reaction when you're near another. For example, you may sneeze a bit when you're cutting the lawn, but you're generally okay. However, when you're near a dog, you cough, wheeze and feel awful. Your allergist can tell you which of your allergies are the strongest.

COMMON ALLERGENS AND HOW TO AVOID THEM

Animal proteins (secrections)

Many cats, dogs, birds, horses, and other animals have allergens.

The allergen is the protein in your nose or throat. It can cause allergies, including asthma, if you are allergic to the protein. You can avoid the allergen by avoiding the animal.

- Find a loving home for your pet.
- If you keep your pet, keep it out of your bedroom and off the furniture. Have someone else feed and care for your pet.
- Have someone wash and brush your pet every week.

Dust mites

They are small, eight-legged creatures that live in your home.

They feed on the organic matter in your home, such as dust, food, and pet dander.

People with dust allergies are allergic to the proteins (feces) of dust mites.

- Cover your mattress and pillow with specially made dust-mite covers or with plastic or vinyl covers. Tape the zipper for a complete seal.
- Wash your bedding in hot water and dry it in a hot dryer every week. Wash stuffed toys in the same way.
- Keep the humidity in your house below 50%. Dust mites don't like to live in a place with low humidity.
- Keep your bedroom free of clutter. Books, boxes and clothes lying around can all collect dust.

Dust
 To get rid of the allergen causing
 allergies, you must wash with the
 vacuum, mopping, and on the other

- If you can, remove carpets, rugs, and heavy curtains from your bedroom.
- Vacuum rugs and carpets at least once a week (the person with a dust allergy should not do the vacuuming).
- Avoid giving stuffed toys to children with asthma because they can collect dust.
- Get someone else to dust every week with a damp cloth. If you must dust, wear a N95 respirator (you can purchase one at a hardware store for about \$2.00) or a strip of damp, clean cotton over your face as you dust.

Pollen

When outdoors, avoid pollen. Avoid
 flowers, trees, and other plants.

- Close your windows to keep pollen out.
- Avoid hanging clothes outside to dry as pollen will cling to clothing and be carried inside.
- In hot weather, spend more time indoors where there is an air conditioner.
- Avoid being outside in humid weather, especially when pollen counts are highest.
- Check the pollen counts in your area to see when the pollen you're allergic to is at its worst.
- If you've been outside at a time of high pollen counts, take a shower to wash the pollen off of your skin and hair, and change into clean clothes.

Mould

Mould is a common allergen.
 Mould grows in damp and warm
 places. It can be found in
 basements, attics, and around
 leaks.

Outdoor mould:

- Keep windows closed during times of high humidity.
- Avoid outdoor activities, like cutting grass, raking or handling hay. If you can't avoid these activities, wear a mask.

Indoor mould:

- Avoid using a humidifier. If you must, then make sure that the indoor humidity is less than 50%.
- Use an air conditioner or dehumidifier in the summer.
- Ventilate your home properly.
- Heat all rooms in cold weather.
- Get rid of mouldy food.
- Avoid carpeting in bedrooms and bathrooms.
- Use exhaust fans when cooking and showering.
- Avoid sleeping in the basement if possible.

FOOD AND DRINK THAT CAN CAUSE ALLERGIES

Food is not a common asthma trigger. Food allergies mostly affect children. Food reactions can be mild or severe. Common foods that cause allergies are peanuts, tree nuts, fish and shellfish, milk and eggs.

What to do if you have food allergies

- Know what you are allergic to and avoid it.
- If you have a severe allergy, carry an emergency kit that includes medication and an EpiPen. Make sure you know how to use them.
- With a severe reaction, use your EpiPen immediately (if you have one), call 911 and go to a hospital immediately.
- Wear a Medic Alert bracelet.
- Avoid cutting boards, cutlery, plates and anything that has come into contact with the food you are allergic to. Even small amounts of the food can cause a severe reaction.
- Use caution when eating anything that has not been prepared by you.
- Ask questions about ingredients and how the food was cooked.
- Always check ingredient lists. Some allergic reactions can result from eating foods with preservatives (beer, wine, dried fruit, frozen seafood, some salad bars and frozen French fries).

MEDICATION TO TREAT ALLERGIES

The best way to treat allergies is to stay away from the things that you are allergic to. No treatment will work as well as simply avoiding the allergen in the first place. If you can't avoid an allergen, you may need medication specific to the symptoms and, in some cases, allergy shots.

Nasal allergy treatment

Nasal corticosteroids:

- require a prescription from your doctor
- work by spraying the medication in your nose
- reduce the swelling inside your nose

Antihistamines

- don't require a prescription (can be bought over-the-counter)

- counteracts the histamine released in the body, which causes many symptoms
- may cause drowsiness and may make stuffiness worse

Decongestants

- do not require a prescription (can be bought over-the-counter)
- reduces congestion (plugged up feeling in your nose and head)
- may not work very well
- should not be taken by people with high blood pressure and heart problems

Always read the label to find out the complete list of ingredients when buying over-the-counter drugs. You can ask your pharmacist for help in understanding what the labels say.

Allergy shots

Allergy shots are a less common way to treat allergies. The idea is that if you inject an allergic person with a little bit of the thing they're allergic to and then their body might learn to be less sensitive to it. Allergy shots don't work for every kind of allergy and they can take a while to start making a difference. Your doctor or allergist can tell you if allergy shots are right for you.

COMMONLY ASKED QUESTIONS ABOUT ASTHMA AND ALLERGIES

Should I get rid of everything in our house that could possibly cause allergies?

No. It is expensive and time-consuming to get rid of all possible triggers from your home. You only need to identify and remove the triggers that affect you.

Should allergy shots be used to treat my asthma?

Allergy shots are not used to treat asthma. They are used to manage specific allergies. You should avoid your triggers and take your regular asthma medication. If you have allergies, and you are thinking about allergy shots, you should speak to your doctor.

What is anaphylaxis?

Anaphylaxis is an extreme reaction of the body's immune system to a particular trigger, such as food, insect stings and medications. Anaphylactic reactions can be mild to

**WHAT TO DO IF YOU
EXPERIENCE SYMPTOMS
OF ANAPHYLAXIS**

If you experience symptoms, such as swelling of the throat or hives all over your body and/or feeling faint, do the following:

1. Use your EpiPen immediately.
2. Tell someone.
3. Go immediately to a hospital emergency room.
DO NOT DRIVE YOURSELF.

life threatening. The most common food products that cause reactions are peanuts, tree nuts, sesame, soy, fish, wheat, eggs, milk and seafood. The most common insect stings that cause reactions are yellow jackets, hornets, wasps and bees. Some people have severe anaphylactic reactions to natural latex rubber.

Signs and symptoms of anaphylaxis:

- itching of skin and a raised rash (hives)
- flushing, swelling of the tissues of the lips, throat, tongue, hands and/or feet
- wheezing, shortness of breath, coughing, hoarseness
- headache, nausea, vomiting, abdominal cramps
- sense of impending doom, loss of consciousness

Here are some suggestions on how to protect yourself:

- Once you have had an anaphylactic reaction to something, you must avoid it.
- Find out from your doctor, pharmacist or certified asthma educator how to use an EpiPen.
- Always carry an emergency kit containing your rescue inhaler, an antihistamine and an EpiPen.
- You should carry an extra EpiPen for every 15 to 20 minutes you are from the nearest emergency services. (For example, if you are one hour away from the nearest hospital, you should have at least three EpiPens with you). The medication in your EpiPen will wear off in 15 to 20 minutes and you may still be in a life-threatening situation.
- Wear a Medic Alert bracelet that says "ANAPHYLAXIS: CARRIES EPIPEN" so others can help you in an emergency.

HOW TO IMPROVE THE AIR QUALITY IN YOUR HOME

Here are some tips on improving the indoor air quality in your home.

When cleaning

- Target items that trap a lot of dust, such as shelves, drapes, and furniture. Don't forget about the dust that collects underneath chairs and other large objects.
- Use a damp cloth (dry dusting just sends most dust back into the air) and work from the top down.
- Regularly replace furnace filters (high efficiency, one-inch pleated filters are preferred).
- If you want to keep magazines and newspapers for a while, store them in a cabinet where they can't collect dust. If you have too many lying around, recycle them.
- If possible, use a central vacuum system. It removes dirt without stirring up microscopic dust particles. The vacuum receptacle is vented outside of the home, keeping the air inside cleaner. If you can't afford a central vacuum system, use a vacuum that uses a high-efficiency vacuum filter bag.

When doing laundry

- Use unscented laundry soap marked with the Canadian Ecologo.
- Instead of using fabric softener, use a half cup of vinegar in the rinse water.
- Make sure that your dryer is vented to the outside and the hose is not blocked.

To control pests

- Clean up promptly after cooking and cover up leftover food.
- Regularly remove your kitchen garbage.
- Identify cracks and other openings that act as entry points for insects into your home, and seal these areas with caulking. If you have trouble with rodents, stuff some steel wool into the cracks where they get in (rodents can't chew through steel wool), or place traps where they enter your home.
- If ants are a problem, try sprinkling cayenne pepper at their point of entry.
- Use pesticide-free glue traps to catch crawling insects. Never use pest strips or other pesticides inside your house.

SECTION 6: ASTHMA AND PREGNANCY



Pregnant women are breathing for two. When asthma is controlled, pregnant women with asthma have no more problems during pregnancy and giving birth than women who do not have asthma. However, uncontrolled asthma during pregnancy can lead to serious problems for both mother and baby. If you have asthma and you're pregnant, or are planning to become pregnant, see your doctor or certified asthma educator.

When you are pregnant, it is especially important to have your asthma under good control. Breathing problems in the mother can limit the oxygen supply to the baby.

How your asthma changes when you're pregnant

In general, one third of pregnant women with asthma notice that their asthma symptoms improve during pregnancy, one third of women have asthma symptoms that stay the same, and one third of women have asthma symptoms that get worse. Also, each pregnancy may affect your asthma differently.

If you have uncontrolled asthma, there is a higher risk of:

- premature birth
- low birth weight
- maternal blood pressure changes (preeclampsia)

MANAGING ASTHMA WHILE YOU'RE PREGNANT

Acute asthma attacks endanger your baby by reducing the oxygen she or he receives. It is important to prevent an asthma episode during pregnancy, labour and delivery.

Here are some ways to manage your asthma while pregnant:

- Avoid your asthma triggers.
- Continue taking your asthma medications (as prescribed by your doctor) during pregnancy, labour and delivery.
- Get your flu shot if you have not already had it this year. A flu shot can be taken after the first three months of pregnancy. (Note: flu shots are not recommended for anyone with an egg allergy.)
- Exercise carefully as advised by your doctor.
- Don't smoke. A pregnant woman who smokes has a greater risk of having a severe asthma attack at some time during the pregnancy. This could seriously reduce the oxygen supply to your baby, especially if your baby's blood already contains a large amount of carbon monoxide gas from

YOUR ASTHMA IS WELL-CONTROLLED IF YOU HAVE:

- daytime symptoms less than four days a week
- nighttime symptoms less than one night every two weeks
- normal physical activity
- mild and infrequent symptom flare-ups
- not missed school or work
- used your rescue medication (blue puffer) less than four doses a week (except one dose per day prior to exercise)
- a peak flow rate that is 80% or greater of personal best

cigarette smoke. Infants are three times more likely to die of Sudden Infant Death Syndrome (SIDS) if their mothers smoked during or after pregnancy.

- **Avoid second-hand smoke.** Both you and your baby can be affected by second-hand smoke. Ask friends and family not to smoke.

Monitoring asthma control

When you are pregnant, your body goes through many changes. Some of these changes are due to asthma. You and your doctor need to monitor your asthma symptoms so that your medications can be adjusted accordingly.

Your doctor can monitor your asthma by using:

- **Spirometry:** This is a simple breathing test that measures how much air you can push out of your lungs and how fast.
- **A peak flow meter:** This is a handheld device to measure the rate you can blow air out of your lungs. The goal is to try to maintain normal or near normal rates.
- **Ultrasound:** This test uses sound waves to create images that provide an indication of your baby's growth. A gel is put on your abdomen and a handheld sensor projects an image of your baby onto a computer screen.

Your doctor will assess the health of your baby by using:

- **Electronic fetal heart-rate monitoring:** A Doppler is a small device that is pressed against your abdomen and allows you to hear your baby's heartbeat.
- **Non-stress test:** This test monitors your baby's heart rate over a period of time.
- **Daily kick charts:** These charts are used to monitor your baby's activity. You can keep a record of when you feel your baby kick or move. The charts can be compared over a period of time to see your baby's activity pattern.

ASTHMA MEDICATIONS AND PREGNANCY

The risks of uncontrolled asthma are far greater than the risks to the mother or baby from the medications used to control asthma. If you are pregnant or plan to become pregnant, tell your doctor. Taking care of your asthma needs to be addressed at the same time as taking care of your pregnancy. If possible, use the same doctor for both your asthma care and pregnancy. However if this is not possible, all doctors need to work together.

Drugs to avoid during pregnancy

Take your asthma medications as directed by your doctor. Be careful about taking any other medications. There are many over-the-counter, prescription, and herbal medications that should not be taken during pregnancy. Check with your doctor or pharmacist before taking any non-prescribed medication when you are pregnant.

If you have any questions about medication use during pregnancy, please speak with your doctor, pharmacist or certified asthma educator.

WHAT CAN YOU EXPECT WHEN YOU GO INTO LABOUR

Monitoring during labour and delivery

When you are admitted to the hospital, your baby will be monitored electronically. During the course of labour, monitoring of you and your baby will continue. If your asthma is under control or you are considered low risk, continuous monitoring may not be necessary.

You may have your peak flow rate taken when you are admitted to the labour and delivery unit and every 12 hours after that. If asthma symptoms develop, peak flow rates may be measured after treatments. An intravenous, or IV, may be necessary to ensure you are well hydrated. Painkillers will help limit the risk of asthma symptoms.

Medications during labour and delivery

- Your regularly scheduled asthma medications should be continued during labour and delivery.
- If your asthma improved during pregnancy and your medications were appropriately reduced, you may need more medication immediately following delivery.
- If your asthma has not been under good control, your doctor may give you specific instructions to go to the hospital early in your labour.
- Do not hesitate to ask for a painkiller. This will help limit your risk of asthma symptoms.

WHAT TO DO IF YOU HAVE AN ASTHMA ATTACK WHILE PREGNANT

1. Stop all activity.
2. Take your rescue medication (blue puffer) right away, as directed by your doctor.
3. Sit down.
4. Tell someone.
5. Call 911 right away if any of these things happen:
 - The rescue medication (blue puffer) does not begin to help within 10 minutes.
 - The rescue medication wears off and your symptoms return.
 - Your symptoms keep getting worse.
 - You feel extremely anxious.

WHAT YOU CAN EXPECT AFTER YOUR BABY IS BORN

After the baby is born, it may be necessary to change your asthma medications and doses. Because some women experience changes in their asthma during pregnancy, their asthma may change again following delivery. For this reason, you and your doctor should monitor your asthma very closely to make sure it stays well controlled.

Breastfeeding

- Keep taking your medications as prescribed by your doctor. Inhaled bronchodilators and anti-inflammatories do not appear to cause side effects (except for theophylline, which gets into breast milk and can make the baby irritable.) If you take theophylline, talk to your doctor about other options.
- Don't smoke. Infants are twice as likely to die of Sudden Infant Death Syndrome (SIDS) if their mother starts smoking again after giving birth.
- Avoid second-hand smoke. To keep your baby healthy, don't let anyone smoke around your child or in your home.
- Avoid antihistamines because they can cause sleeplessness and irritability in infants. They can also reduce or prevent production of breast milk.

COMMONLY ASKED QUESTIONS ABOUT PREGNANCY AND ASTHMA

I'm pregnant and I smoke. Why should I quit?

Mothers who don't smoke are healthier. They have easier pregnancies and deliveries and recover faster after giving birth with fewer complications. Babies whose mothers are smoke-free are more likely to be born full-term, be healthy at birth and stay healthier as they grow.

When should I quit?

Quitting before you get pregnant is the best choice. If you are already pregnant, quitting as soon as possible is best for you and your baby. Some women actually find it easier to quit while pregnant because they may already feel nauseated from morning sickness. Talk to your doctor or certified asthma educator about getting help to quit.

Will it be too hard on the baby for me to quit when I'm pregnant?

No. Quitting smoking is the best thing you can do for you and your baby. Many of the 4,000 chemicals found in tobacco smoke cross into your baby's blood, slowing growth and development. Babies born to mothers who smoke are more likely to be premature, have a low birth weight and have more problems at birth than babies whose mothers are smoke-free. As your body begins to heal from the stress of smoking, so does your baby.

What if my partner smokes?

Your partner should also try to quit because second-hand smoke can seriously harm the baby while you're pregnant and after the baby is born. Second-hand smoke puts your baby at risk for Sudden Infant Death Syndrome (SIDS), allergies, asthma, ear infections and other illnesses. It is important for your child to live in a smoke-free home.

Be supportive of your partner's efforts to quit. If your partner isn't ready or willing to quit, you can still insist on a smoke-free home. Never allow smoking in your home or car. It's not enough to ban smoking near your baby either. The chemicals in tobacco smoke get trapped in your clothing, carpet, furniture and curtains. These chemicals stay in your house and can make your baby sick. Don't take your baby to places where people are smoking or have been smoking.

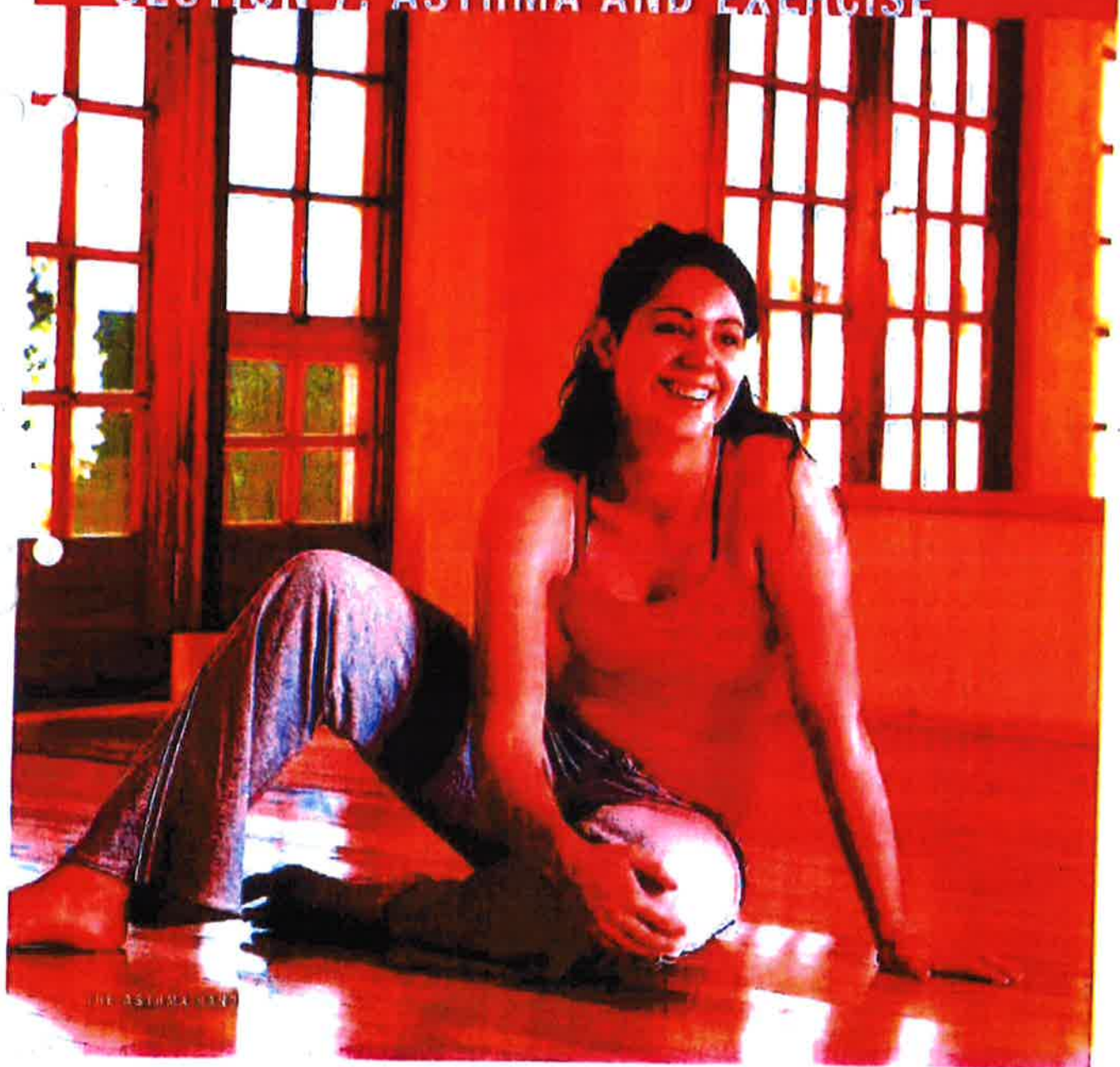
Will my baby have asthma?

Maybe. There is a genetic link to asthma. The exact cause is not known. A family history for asthma or any associated conditions (eczema, hay fever) increases the chance of the baby having asthma. Asthma can develop at any age, but is more common in children.

You can help reduce your baby's chances of developing asthma by:

- not smoking, especially during pregnancy.
- not allowing smoking in your house or car.
- breastfeeding exclusively (breast milk only) for a period of at least four months.
- not having cats or dogs in the house if either parent has allergies.

SECTION 7: ASTHMA AND EXERCISE



If you have asthma, you can still exercise regularly. As long as your asthma is under control, exercising is recommended to keep your lungs and body in good shape. Before starting a new exercise program, discuss it with your health-care team since changes in your medications may be needed.

Exercise does not cause asthma. However, exercise can be a trigger for people with asthma (known as exercised-induced bronchospasm).

Why does exercise sometimes trigger asthma symptoms?

Normally, people breathe through their noses. The nose acts as an air filter. It controls the temperature and humidity of the air before it reaches the lungs. When you exercise, your body needs more air and you breathe faster. You start breathing through your mouth. Air that comes through your mouth has not been filtered, warmed, or moistened by your nose. This means the air that gets to your airways is cooler and drier than usual.

If you have asthma, your extra-sensitive airways react to the cool, dry air. The muscles around the airways twitch and squeeze tighter. Tighter airways mean there is less space for the air to pass through. This makes you wheeze, cough and feel short of breath.

TIPS FOR EXERCISING

- Talk to your doctor about using your rescue medication (blue puffer) 15-20 minutes before exercising.
- Warm up slowly before exercising by walking.
- Cool down slowly for at least 10 minutes after exercising. Don't stop suddenly.
- Avoid exercising outside on days when pollution or pollen counts are high. Exercise indoors instead.
- Cover your nose and mouth with a scarf or a special asthma mask when exercising outdoors in cold weather. You may want to exercise indoors.
- Always carry your blue puffer with you.
- If you are running, biking or cross-country skiing alone, tell someone where you will be going and when to expect you back.

WHAT TO DO WHEN YOU HAVE ASTHMA SYMPTOMS WHILE EXERCISING

1. Stop exercising immediately.
2. Take your blue puffer.
3. Relax in a resting position (sitting up or standing against a wall) and wait a few minutes to see if your symptoms get better.
4. If your symptoms really improve, warm up again and slowly start exercising.
5. If your symptoms aren't getting any better, call for help and keep using your blue puffer until help arrives.
6. If you are very short of breath, call 911.

SECTION 8: ASTHMA AND TRAVEL



THE ASTHMA HANDBOOK

If you travel and you have asthma, these suggestions may be helpful:

Take enough medication to last the entire time you are away and allow for increases due to flare-ups and travel delays. Take an extra prescription's worth in case of loss or theft.

If you travel on a plane, keep your rescue medication (blue puffer) close at hand in case you need it. Airplanes contain many things that can trigger breathing problems, such as perfume and other strong smells. Don't store it in the overhead bin!

Keep medication in the original containers with your name on the prescription label. Sometimes pharmacists put the medication label on the outside of the puffer's box, instead of on the puffer itself. If your puffer is not labelled, ask your pharmacist for a label before you travel.

Make sure you are booked on smoke-free transport (plane, train, rental car, bus or boat) and always ask for a smoke-free room where you are staying.

If you are travelling outside of Canada, ask your pharmacist for a printout of your medications and/or ask your doctor for a letter identifying your prescriptions.

If you travel outside of your province, make sure you have enough medical insurance in case of an emergency.

If you are using a nebulizer to take your medications, make sure that the country that you are visiting has the same electrical voltage as Canada. If not, speak to the supplier where you bought the nebulizer. They can give you an adaptor or you can rent a suitable nebulizer.

If you don't already have one, ask your doctor for an asthma action plan in case you have problems while you are away.

Never stop taking your medication, even when you feel better.

If you have lost or finished your medication while away, go to the nearest reputable health-care centre as advised by your travel agency, insurance company or doctor.

WHAT YOU SHOULD KNOW ABOUT BRINGING MEDICATIONS ON PLANES

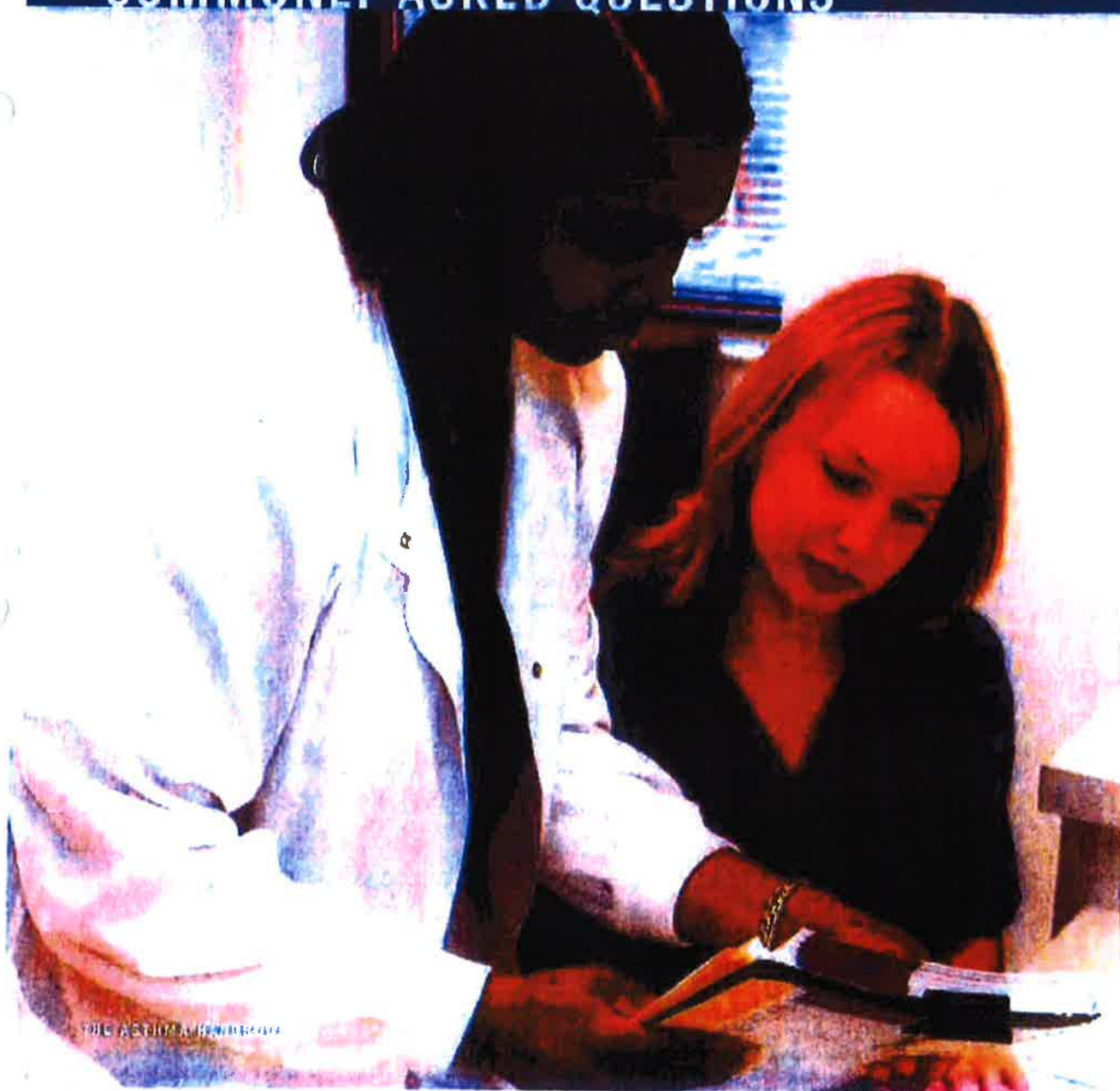
New carry-on baggage rules affect inhaled and liquid medications. If you use inhalers and liquid medication, you need to pay special attention to the new rules for carry-on baggage.

According to the Canadian Air Transport Security Authority (CATSA):

- Liquid prescription medicine is allowed as long as it is clearly labelled with a name that matches the passenger's ticket/boarding pass.
- Other essential non-prescription liquid medicines are also allowed and are exempt from the container size restrictions. In addition, they are not required to be in a plastic bag.

Check the CATSA website (www.catsa-acsta.gc.ca) before you leave, in case the rules change.

SECTION 9: COMMONLY ASKED QUESTIONS



THE ASTHMA CENTER

Is there a cure for asthma?

Currently there is no cure for asthma. However, in the majority of cases, asthma can be managed.

Does asthma go away?

Asthma is a chronic disease, which means that it never goes away. In a situation where asthma is caused by something in the workplace, removing the allergen can help minimize asthma. Many children seem to "outgrow" their asthma by puberty. Some of them remain symptom-free but for others symptoms may reappear in adult life.

Can I die from asthma?

Yes, but it is very rare. About 300 Canadians die each year from asthma. In most cases, asthma deaths can be prevented by proper asthma education and management.

Who gets asthma?

Canadian children have a 20 per cent chance of being diagnosed with asthma by age 12. There is a further 20 per cent chance of being diagnosed with asthma between the ages of 12 and 40 years. Under age 12, boys are about twice as likely as girls to develop asthma. After age 12, girls are more likely than boys to develop asthma.

Will my asthma get better if I move to a different climate?

While some symptoms may improve in a different climate, moving may expose you to new triggers that can cause breathing problems. For example, a warmer climate may have more air pollution and higher humidity. To avoid replacing one trigger with a different one when you move, it's a good idea to spend a trial period of several weeks to months in the new location. Don't move until you are sure there's a real improvement in your asthma symptoms. Consider also that your improvement might be due to leaving a pet at home, being away from a workplace trigger, or having less stress on holiday — factors that have nothing to do with climate at all.

What are the risks of not avoiding asthma triggers?

If you do not avoid your triggers, you will experience constant breathing problems. You risk having a severe asthma attack requiring a hospital visit.

Will an air cleaner help my asthma?

Indoor air quality is an important issue, particularly for those at high-risk including children, the elderly, pregnant women and people with a chronic lung condition.

You can improve indoor air quality by doing the following:

- Identify and eliminate the source of the problem, such as mould and cigarette smoke. See Section 5: Allergies and asthma for tips on eliminating mould.
- Increasing the amount of ventilation within the home to help ensure air is fresh.
- As a last resort, the use of a high efficiency particulate air (HEPA) filter with activated charcoal may provide some benefit. There must be a large amount of air going through the filter to provide this benefit. (Note: Electronic air cleaners or purifiers that produce ozone are not recommended as the ozone can make asthma worse.)

For more information about what you can do to improve the quality of the air in your home, speak to a certified asthma educator or respiratory educator or contact The Lung Association office nearest you.

Can having a pet at home reduce childhood asthma?

Maybe. Some studies suggest that there is some protective effect of having a pet. However, if a child develops asthma, continued exposure can lead to ongoing asthma.

Is taking steroids for asthma dangerous?

No. Corticosteroids for asthma are not the same as the muscle-building steroids that are banned by some sports organizations. The corticosteroids used to treat asthma are similar to the steroids produced naturally by the body. However, like most medications, corticosteroids can have unwanted side effects, especially when used in high doses for long periods of time. Talk to your doctor, pharmacist or certified asthma educator if you have questions about side effects.

Should I see an asthma specialist?

Talk to your doctor about seeing an asthma specialist if:

- Your asthma is not getting better even though you are avoiding your triggers and taking your medication.
- You have had to be admitted to the hospital or gone to the emergency department because of your asthma.

- There may be factors that require more in-depth assessment, such as a trigger in your workplace.

**What is the difference between COPD and asthma?
Can you have both?**

Asthma is a chronic disease of the airways that is characterized by swelling, mucus production and tightening of the airway muscles. These symptoms can be treated and managed through education, environmental control and proper use of medications. Chronic obstructive pulmonary disease (COPD) is a disease that makes it difficult to move air into and out of the lungs due to permanent damage caused by breathing in harmful materials, such as tobacco smoke, over time. In COPD, there is also swelling of the airways and excessive mucus production but these symptoms are only partially reduced by medications. A person can have both asthma and COPD at the same time.

What are some other diseases and conditions that can affect asthma?

Gastroesophageal reflux disease is sometimes called GERD or acid reflux. It is a chronic condition in which acid from the stomach backs up into your throat. The stomach acid may cause breathing problems when it comes in contact with the lining of your throat and airways. The exact connection between GERD and asthma is not completely understood yet, but studies have shown that GERD can cause asthma.

Heart disease is a condition that affects the heart muscle or the blood vessels of the heart. A person with heart disease may be taking a medication that decreases blood pressure. This group of drugs (known as non-specific beta-blockers) should not be used by people who also have asthma because these drugs increase the risk of having a severe asthma attack.

Glaucoma is an eye disease in which the normal pressure of the fluid inside the eyes slowly rises, leading to vision loss or even blindness. There is a very low risk of developing glaucoma from using inhaled steroids to manage asthma. People aged 65 years or older who are receiving unusually high doses of inhaled steroids (greater than 1500 µg per day) should have their eye fluid pressure monitored during their annual eye examination to detect glaucoma.

Arthritis is an inflammatory disorder of the joints that may produce pain and swelling. Arthritis can be treated using drugs called non-steroidal anti-inflammatory drugs (NSAIDs). People with both arthritis and asthma should be aware of the possibility that they may also be sensitive to Aspirin.

Aspirin triad is a condition in which people have asthma, an Aspirin sensitivity and nasal polyps (soft, non-cancerous growths that develop on the lining of your nose). Talk to your doctor or certified asthma educator for more information on this condition.

Osteoporosis is a disease in which bones become fragile and more likely to break. One cause of osteoporosis is the continued use of high doses of steroids, a type of medication used to treat swelling and inflammation. The risk of developing osteoporosis from using inhaled steroids to manage asthma is very low.

How should I prepare for a visit with my doctor?

1. Always prepare a list of the questions you want your doctor to answer. At the doctor's office, it's easy to forget things.
2. Keep a list of all the symptoms you are experiencing. Be honest. If you don't tell the doctor all the details of your health, you won't get the treatment you need.
3. Bring along all the medications you are taking for your asthma and for any other conditions. If you're not sure you're taking your medications correctly, now is the time to ask.
4. Bring a pad of paper to record what the doctor tells you about your asthma and about any tests or medications you may need.
5. Bring along a relative or friend to your appointment. If you miss some information or forget something, someone is there to back you up.
6. Listen carefully. If you don't understand what the doctor says, ask for an explanation. Keep asking until you do understand.
7. Ask your doctor for an asthma action plan if you don't already have one.
8. Ask your doctor whether there are resources in your community that could benefit and support you.
9. If you get home from your doctor's visit and realize you missed a question or don't understand something the doctor told you, phone back immediately and ask for more information.

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NOTES

This image shows a single sheet of white paper with horizontal blue lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook or legal pad style.

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WHAT TO DO IN AN EMERGENCY



THE ASTHMA HANDBOOK

When you have asthma, you need to know what to do in an emergency. Your asthma action plan will tell you exactly what to do when you start to have breathing problems. If you don't have a plan, ask your doctor for one.

If you start to have breathing problems, follow the instructions at the right. You may even want to make a copy of this page and post it somewhere handy.

What can I expect when I arrive at the hospital?

You will be given medications that will help open your airways so you can breathe easier. Hospital staff may ask you questions about your asthma, including how much rescue medication (blue puffer) you have taken on the way to the hospital.

In the emergency room:

- your pulse and blood pressure will be taken
- oxygen may be given using a mask
- an attachment may be placed on one of your fingers to measure the oxygen content of your blood
- an intravenous, or IV, may be started to give you medication that will open your airways

What happens after I go home from the emergency room?

Within 48-72 hours of visiting the emergency room, you should call your doctor for an appointment. You will need to review the reason why you ended up in the emergency room so that you can prevent it from happening again. Your doctor may want you to see a certified asthma educator or respiratory educator to help you regain control of your asthma.

If you have been given a prescription for additional or increased medication, be sure to tell your doctor about it. Ask how long you should take the additional medication before returning to your usual asthma medications.

IF YOU START TO HAVE BREATHING PROBLEMS:

- Stop all activity.
- If possible, remove yourself from exposure to the trigger.
- Sit in a relaxed position.
- Take your rescue medication (blue puffer).
- Repeat your rescue medication if you do not start to feel relief within 10 minutes.
- If you have come in contact with one of your allergy triggers, take a shower or bath when feeling better.

If you do not feel relief from your blue puffer, you need to take action RIGHT NOW.

SIGNS OF WORSENING ASTHMA:

- Breathing is very difficult
- Continued wheezing or coughing at rest
- Difficulty walking or talking
- Lips and/or fingernails are blue
- Blue puffer does not help in 10 minutes or does not last three hours

You need to call for help NOW. Ask another adult or neighbour to drive you to the nearest emergency room, or call an ambulance.

Use your blue puffer on the way to the hospital as much as needed.



When you can't breathe, nothing else matters.

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