**ASTHMA DISCHARGE BUNDLE**

- Please print using the settings:
  - ‘print on both sides, flip on the short edge’

- DON’T FORGET! Pick up a Personalised Asthma Plan to add to the bundle.

FOR PARENTS
Please fold.

## Asthma triggers

Everyone's asthma is different so can be triggered by different things. If you know you are going to be in contact with one of your triggers, use your blue reliever inhaler beforehand. Use it every 4 hours if the trigger is still there, for example, you have a cold or the pollen count is high
Common asthma triggers include

- Viral infections
- Allergies – eg to pollen, animals, dust)
- Irritants – eg cold air, smoke, chemicals)
- Exercise
- Changing weather

## Asthma plans

You should have a personalised asthma action plan which may be provided by the hospital when you go home or by your GP as part of your asthma review. This plan details your treatments and should be used to manage your asthma when you become unwell.

We hope this information sheet has has been helpful but it is by no means a replacement for talking to either the Doctor or Nurse. Please ask questions if you feel you need more information

# Asthma Information Leaflet

Information has been produced by Dr, Jennifer Townshend and Sally Hails May 2016.
Review date May 2018

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## What is asthma?

Asthma is a common long-term condition that affects the airways – the small tubes that carry air in and out of the lungs. The airways are more sensitive in people who have asthma and can become swollen if they come into contact with a "trigger" – something that irritates the airway. This swelling makes the airways smaller by narrowing it.
As well as becoming swollen, the muscles around the airway tighten and more mucus is produced. This also narrows the airway.
Most children with asthma can lead a normal life if they take their medications correctly and attend regular reviews.

## What are the symptoms of asthma?

The main symptoms of asthma are

- Shortness of breath
- Cough
- Wheeze
- Tight chest – younger children may complain of a sore tummy

There are 2 main times you can get symptoms:

1. You can get interval symptoms. These are symptoms you get regularly, for example at night or during exercise
2. You can have an asthma attack. This is when your symptoms get suddenly worse, for example during a cold or after coming into contact with one of your triggers.

## What medicines are needed?

Most asthma medicines come as an inhaler ("puffer") and there are two different types – relievers and preventers

### Relievers

Everyone with asthma should have a reliever inhaler which is usually blue. The reliever works on the muscles around the airways. It helps these muscles to relax which opens up the breathing tubes making it easier to breathe.
It relieves symptoms within a few minutes and the effect should last for 4 hours.
You should always use a spacer with your inhaler, especially if you are unwell. As you get older, you may be able to use a different type of inhaler that doesn't need to be used with a spacer. You should always carry your reliever inhaler with you

### Preventers

These are usually brown or orange and contain steroids.
These protect the airway and help to control the swelling.
They can also stop the airway being so sensitive to asthma triggers.
It takes several weeks of regular use to start seeing any benefit from a preventer inhaler and up to 6 weeks to work fully. This is why it is important to take your preventer inhaler every day even if you are well. You should always take your preventer inhaler with your spacer.
To reduce the risk of side effects (sore mouth, sore throat, hoarse voice) you should clean your teeth or rinse your mouth after use. If you are using a mask with the spacer, this should be washed daily and your face should be wiped after use.

## General Tips

- It can be difficult to give a small child their asthma medicine using a spacer but please persevere - it will get better and easier.
- Try to stay calm but be firm and positive. Do not restrain your child to administer the inhaler – if they are crying the medication will go into their tummy and not their lungs so will be of no benefit.
- Allow your child to play with the spacer and mask, to become familiar with it
- Make it fun by putting stickers on the outside of the spacer.
- Make it a bit of a game or make up a song
- If using a mask, it may be easier to administer the medicine with two people – one to hold the mask and one to administer the medicine

## Who do I contact if I need help or more advice?

We hope this information sheet has been helpful to you but is by no means a replacement for talking to either the doctor or nurse. Please ask questions if you feel that you need more information

**Information produced by Nurse Specialists (Children's Respiratory) April 2016, Review by April 2018**

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NEPPP
North East Paediatric Partnership

FOR PARENTS
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# Information for patients/parents
# Using a Large Volume Spacer

**This leaflet will inform you how to use a Large Volume Spacer**

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A spacer is a device that helps you/your child to take the inhaled asthma medicines that have been prescribed. It can be used to take reliever inhalers (blue) and preventer inhalers (brown/orange/purple) from an aerosol inhaler. Children under seven should always use a spacer and an aerosol inhaler. Your Doctor or nurse should show you how to use a spacer.

This leaflet will explain how to use the spacer with and without a mask.

## Using the spacer for the first time

1. Remove the spacer from the plastic bag.
2. Wash the two pieces in warm soapy water.
3. Do not rinse or dry with a towel as rinsing and drying with a cloth can increase the static inside the spacer, causing the medicine to stick to the sides.
4. Leave the spacer to air dry – do not use until it is dry.
5. Do not store in a plastic bag.

## How do I use a spacer?

1. Put the two pieces of the spacer together.
2. Shake the inhaler well and put it in the hole at the end of the spacer.
3. Put the mouthpiece into your child's mouth, encouraging them to make a seal with their teeth and lips
4. Encourage your child to breathe in and out at a normal rate to make the valve click.
5. Push the top of the inhaler so that a dose of medicine is released – "a puff".
6. Encourage your child to breathe in and out, slowly and deeply 4 – 5 times or for a count of 10
7. Take the mouthpiece out of your child's mouth and wait for 30 seconds.

**It is important that you wait for 30 seconds to ensure that the next dose is accurate**

8. Take the inhaler out of the spacer and repeat from point 2.
9. If your child is using the spacer with inhaled steroids (preventer), please ensure that they clean their teeth or at least, have a drink after use. This will prevent the side effects that your doctor/nurse will have talked about.

## How do I use a spacer with the mask?

**For children aged four years or under, you will need to use a mask with the spacer.**

1. After you have put the two halves of the spacer together attach the mask to the mouthpiece of the spacer.
2. You may find it easier to lay your child back in a comfortable position if they are very young , allowing the valve to open and they don't need to make the valve click.
3. Place the mask over your child's mouth and nose, ensuring a good seal – do not press too hard as this may upset them.
4. Now continue as instructed from point 4 in the section **How do I use a spacer?'**
5. If your child is having inhaled steroids, you will need to wipe their face and rinse the mask after use, as well as offering them a drink. This prevents the skin around the mouth becoming red and sore.

If your child is finding it difficult to use the spacer with the mouthpiece, continue with the mask, however, keep trying to see if your child can manage without the mask. Your child will get more of the medication if they do not use the mask.

## How do I clean the spacer?

1. The spacer should be washed when new then once a month – unless it is sticky/dirty from food
2. Take the spacer apart and wash in warm soapy water leaving it to air dry - do not rinse the soap off
3. You can wipe the mouthpiece more often, whenever you think it is needed.
4. A spacer will need replacing after about twelve months (or if the valve sticks).Ask your GP to prescribe a new one for you.

## General Tips

- It can be difficult to give a small child their asthma medicines using a spacer but please persevere – if you do - It will get better and easier.
- Try to stay calm but firm and positive. Do not restrain your child to administer the inhaler – if they are crying the medication will go into their tummy and not their lungs.
- Allow your child to play with the aerochamber to become familiar with it
- Make it fun by putting stickers on the outside of the spacer.
- Make it a bit of a game or make up a song
- Sticker charts / star charts can be useful in encouraging a small child to take their medicine.

## Who do I contact if I need help or more advice?

We hope this information sheet has been helpful to you but is by no means a replacement for talking to either the doctor or nurse. Please ask questions if you feel that you need more information

Information produced by Nurse Specialists (Children's Respiratory) April 2016, Review **by April 2018**

FOR PARENTS
Please fold

# Information for patients/parents

## Using an Aerochamber Spacer with Mask

**This leaflet will inform you how to use an aerochamber spacer with mask.**

A spacer is a device that helps your child to take the inhaled asthma medicines that have been prescribed for them. The spacer device that your child has been prescribed is called an aerochamber. It can be used to take reliever inhalers (blue) and prevention inhalers (brown) from an aerosol inhaler. Your doctor or nurse should show you and your child how to use the aerochamber.

## Using the aerochamber for the first time

1. Remove the aerochamber from the plastic bag.
2. Remove the face mask and the inhaler port.
3. Soak in warm soapy water for 15 minutes
4. Shake out any excess water. Do not rinse or dry with a towel as rinsing and drying with a cloth can increase the static inside the spacer, causing the medicine to stick to the sides.
5. Leave on the draining board to air dry.
6. Reattach the face mask and inhaler port.
7. Use when dry.
8. Do not store in a plastic bag

## How do I clean the aerochamber?

1. There is no need to wash the aerochamber more than once a month unless it is dirty or sticky from food.
2. Take the aerochamber apart and soak in warm soapy water for fifteen minutes.
3. Do not rinse.
4. Leave to air dry on the draining board.
5. Put the aerochamber back together.
6. An aerochamber will need replacing after approximately 12 months. Your GP will be able to prescribe a new one for you.

## How do I use the aerochamber?

1. Shake the inhaler to mix up the medicine and put it into the inhaler port.
2. Depending on the age of your child, they can either stand in front of you or sit on your knee. Infants can lie back in your arms in a comfortable position.
3. Put the facemask over your child's face and nose
4. Try to ensure that you have a good seal but do not push too hard as this may upset them.
5. Encourage your child to breathe in and out at a normal rate to make the valve move in the mask.
6. Push the top of the inhaler so that a dose of medicine is released – "a puff".
7. Encourage your child to breathe in and out slowly and deeply 4 – 5 times
8. Take the face mask away from your child's face and wait for thirty seconds.

**It is important that you wait for 30 seconds to ensure that the next dose is accurate**

8. Take the inhaler out of the spacer.
9. Shake the inhaler and repeat from point 3.
10. If your child is using the spacer for taking inhaled steroids, please ensure that they clean their teeth or at least, have a drink after use. This will prevent the side effects that your doctor/nurse will have talked about. It is also advisable to wipe your child's face after using inhaled steroids and to rinse the face mask after each use. This helps prevent the skin around the mouth becoming red and sore.

North East Paediatric Partnership

**FILE IN NOTES**

# ASTHMA MANAGEMENT DOCTOR CHECKLIST

Affix patient identification label in box below or complete details

| | |
|---|---|
| Surname | Patient i.d.No. |
| Forename | D.O.B. DDMMYYYY |
| Address | NHS No. |
| | Sex. Male / Female |
| | |
| | |
| Postcode | |

**Admission:** DD/MM/YYYY – DD/MM/YYYY

## At Admission

**Observations**
RR……HR……SATS……..
Temp……BP……..

**Oxygen provided** Yes / No
*(Should be given if SPO2<94%)*

**Previous admissions** Yes / No
- Required IVs Yes / No
- ITU admissions Yes / No
- Prev Wheeze Yes / No
- Only with colds Yes / No
- Household smoking status Yes / No

## During Admission

- Formal admission
(i.e. Ward 6 or onto Wards): Yes / No
- PICU admission: Yes / No

CXR Ordered: Yes / No
If yes, Indication: ……..

PEF measured: Yes / No
What Value? ……..
What Date? ……..

**Treatment**

B2 agonists Yes / No
Ipratropium Yes / No
Neb / Inhaler / Inhaler with Spacer

Steroids Yes / No
Started: prior to admission / at admission

Antibiotics given: Yes / No
If yes which: ……..

IV medications: Yes / No
If yes which: ……..

## Prior to Discharge

**Medication for discharge**
Reliever Yes / No
Preventer Yes / No
Steroid Yes / No

Medication classes reviewed Yes / No
*(I.e. need for long-term preventer?)*
Doses reviewed
(increasing as necessary) Yes / No

Adherence reviewed Yes / No
Inhaler technique checked Yes / No
Inhaler instruction provided Yes / No

**Trigger Factors**
Viral Yes/No/NA
Exercise Yes/No/NA
Smoking Yes/No/NA
Emotion Yes/No/NA
Other Yes/No If so……

**Discharge Information**
A written action plan has been provided:
Yes / No
Information leaflet: Yes / No
PEF Given: Yes / No
Steroid supply given: Yes / No

**Follow-up**
Community follow up advised – within 7 working days: Yes / No
Specialist follow up arranged – within 2 weeks *(If life-threatening exacerbation)* Yes / No

If Yes: Resp / General / Nurse-led

**To be completed during admission and filed in notes at discharge**

FOR PARENTS

North East Paediatric Partnership

# My Asthma Discharge Checklist

We want to ensure that our patients understand their asthma and how to manage it prior to discharge. Please ask the medical team caring for you to go through this checklist and your asthma management plan before you go home.

## My treatment:

I know which medication I am going home with ☐

I know the doses of my medication ☐

I know when and for how long I will take my medication ☐

I have been shown how to use my inhalers ☐

## My Trigger Factors:

I am aware of what could make my asthma worse

- Viruses ☐
- Cigarette smoke ☐
- Exercise ☐
- Medicines ☐
- Other _____ ☐

## My Discharge Information:

I have been given a peak flow meter ☐

I have been shown how to use my peak flow meter ☐

I have been given my asthma management plan ☐

I have been given an asthma information leaflet ☐

## My Follow-Up:

I will arrange an appointment with my GP within the next 7 days ☐

I have been given an appointment time for follow-up with the specialist nurse within the next 7 days ☐

Follow-up appointment details ……

FOR PARENTS

# PEAK FLOW TOKEN


If you are eight or older, then please give me to your nurse to receive your peak flow meter!

Remember to check your peak flow regularly and record your results!

North East Paediatric Partnership

FOR PARENTS

# Reducing salbutamol puffs when going home

**step 1**

- Take 10 puffs of salbutamol, using a spacer every 4 hours (shake the inhaler, put 1 puff in the spacer and take 4 to 5 normal rate breaths or breathe for a count of 10 for each puff)
- Do this for 36 hours then start to step down this plan
- if your child is sleeping and breathing comfortable overnight, there is no need to wake them up to give them their inhaler

**step 2**

- Take 6 puffs of salbutamol, using a spacer as above, every 4 hours for 36 hours

**step 3**

- Take 2 to 4 puffs of salbutamol, using a spacer as above, every 4 hours for 36 hours

**step 4**

- You should now be back in the green zone of your asthma management plan and should use your salbutamol when needed and **before exposure to any of your triggers**
- Continue to manage your asthma by using your personal asthma management plan

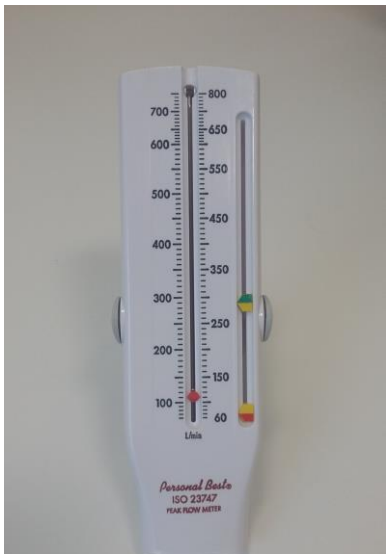
**Please note:**

**If your child is unable to progress through the steps or if they are requiring 10 puffs of their salbutamol more than every 4 hours, you must seek further medical advice.**

FOR PARENTS

# How to use a peak flow meter

1. Stand up or sit up straight.
2. Check that the red arrow on the peak flow meter is on zero.
3. Take a breath in then breathe out fully.
4. When ready to take a reading - take a deep breath in, filling the lungs completely.
5. Place the mouthpiece between your teeth and lips and blow hard and fast into the device, a single blow
   – like blowing out candles on a birthday cake.
6. Note the number next to the arrow – this is your peak flow measurement.
7. Push the arrow back to zero and breathe a few normal breaths.
8. Repeat the steps above twice more.
9. Record your highest blow.



FILE IN NOTES

# ACUTE ASTHMA MANAGEMENT IN CHILDREN AGED 2-5 YEARS

**ASSESS ABC**

**ASSESS ASTHMA SEVERITY**

**Note: Clinical signs may correlate poorly with the severity of airways obstruction. Some children with acute asthma may not appear distressed.**

**Mild -Moderate Exacerbation**

- SpO2 ≥92%
- No clinical features of severe asthma

- Salbutamol 10 puffs via spacer ± face mask
- Reassess after 20 minutes

**Severe Exacerbation**

- SpO2 < 92%
- Too breathless to talk or eat
- Heart rate > 140/min
- Respiratory rate > 40/min
- Use of accessory neck muscles

- Oxygen via face mask to achieve normal saturations
- Nebulised Salbutamol 2.5mg
- Consider Prednisolone 20mg or IV Hydrocortisone 4mg/kg
- **If poor response** add Nebulised Ipratropium Bromide 250micrograms

**Life Threatening Asthma**

- SpO2 < 92%
- Silent chest
- Poor respiratory effort
- Agitation
- Altered consciousness

- Oxygen via face mask to achieve normal saturations
- Nebulised Salbutamol 2.5mg **plus** Ipratropium Bromide 250micrograms
- Consider IV Hydrocortisone 4mg/kg or 50mg
- Discuss with consultant paediatrician

**Assess response to treatment**

Record respiratory rate, heart rate, oxygen saturation

Admit all cases if features of severe exacerbation persist after initial treatment

**Responding:**

- Continue inhaled Salbutamol 1-4 hourly
- Consider oral prednisolone

**Discharge Plan:**

- Ensure stable on 4 hourly inhaled treatment
- Consider Prednisolone daily for 3 days
- Provide a Trust written asthma action plan
- Review regular treatment
- Check inhaler technique
- Consider need for hospital follow up; otherwise advise GP follow up within1 week
- If under hospital follow up inform child's consultant

**Not responding:**

- Repeat Salbutamol every 20-30 minutes **plus**
- Ipratropium Bromide every 20-30 minutes for 2 hours then 6 hourly

**Children with continuing severe asthma despite frequent β2 Agonist, ipratropium bromide and steroids need urgent discussion with a consultant paediatrician**

**Consider:**

- Chest x-ray and blood gases
- Cardiac monitor
- IV Magnesium 40mg/kg (max 2g) infusion over 20 min
- IV Salbutamol 15 micrograms/kg bolus (max 250 micrograms) over 10 mins followed by continuous infusion 1-2 micrograms/kg/min. If not responding child should be transferred to PICU then up to 5mcg/kg/min can be used at this point **–CONSULTANT-CONSULTANT DISCUSSION**
- IV Aminophylline 5 mg/kg (max 500mg) loading dose over 20 min (omit in those receiving oral Theophyllines) followed by continuous infusion 1mg/kg/hour

# MANAGEMENT OF ACUTE ASTHMA IN CHILDREN OVER 5 YEARS

**ASSESS ABC**

**ASSESS ASTHMA SEVERITY**

**Note: .Clinical signs may correlate poorly with the severity of airways obstruction. Some children with acute asthma may not appear distressed.**

**Moderate Exacerbation**

- SpO2 ≥92%
- PEF ≥50% best or predicted
- No clinical features of severe asthma

- Salbutamol 10 puffs via spacer
- Reassess after 20 minutes

**Severe Exacerbation**

- SpO2 < 92%
- PEF < 50% best or predicted
- Heart rate > 125/min
- Respiratory rate > 30/min
- Use of accessory neck muscles

- Oxygen via face mask to achieve normal saturations
- Nebulised Salbutamol 5mg
- Soluble Prednisolone 30-40mg or IV Hydrocortisone 4mg/kg
- **If poor response** add Nebulised Ipratropium Bromide 250micrograms

**Life Threatening Asthma**

- SpO2 < 92%
- PEF < 33% best or predicted
- Silent chest
- Poor respiratory effort
- Altered consciousness
- Cyanosis

- Oxygen via face mask to achieve normal saturations
- Nebulised Salbutamol 5mg **plus** Ipratropium Bromide 250micrograms
- Give IV hydrocortisone 4mg/kg or 100mg
- Discuss with consultant paediatrician

**Assess response to treatment**

Record respiratory rate, heart rate, oxygen saturation and PEFR every 1-4 hours

Admit all cases if features of severe exacerbation persist after initial treatment

**RESPONDING**

- Continue inhaled Salbutamol 1-4 hourly
- Add 30-40 mg soluble oral Prednisolone
- Discharge when stable on 4 hourly treatment

**DISCHARGE PLAN**

- Ensure stable on 4 hourly inhaled treatment
- Give Prednisolone daily for 3 days (min)
- Provide a Trust written asthma action plan
- Review regular treatment
- Check inhaler technique
- Consider need for hospital follow up; otherwise advise GP follow up within1 week
- If under hospital follow up inform chlid's consultant

**Not responding:**

- Repeat Salbutamol every 20-30 minutes **plus**
- Ipratropium Bromide every 20-30 minutes for 2 hours then 6 hourly

**Children with continuing severe asthma despite frequent β2 Agonist, ipratropium bromide and steroids need urgent discussion with a consultant paediatrician**

**Consider:**

- Chest x-ray and blood gases
- Cardiac monitor
- IV Magnesium 40mg/kg (max 2g) infusion over 20 min
- IV Salbutamol 15 micrograms/kg bolus (max 250 micrograms) over 10 min followed by continuous infusion (see appendix 1) 1-2 micrograms/kg/min (max 60micrograms/min).
- If not responding child should be transferred to PICU then up to 5mcg/kg/min can be used at this point - **CONSULTANT-CONSULTANT DISCUSSION**
- IV Aminophylline 5 mg/kg (max 500mg) loading dose over 20 min (omit in those receiving oral Theophyllines) followed by