

AFFIX TRIAGE LABEL HERE	AFFIX PATIENT IDENTIFICATION LABEL HERE U.R. NUMBER: _____ SURNAME: _____ GIVEN NAME: _____ DATE OF BIRTH: ____/____/____ SEX: _____
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EMERGENCY DEPARTMENT: PAEDIATRIC ASTHMA CLINICAL PATHWAY

The Northern Hospital	Last updated October 2001 (Version 2) MR 38K
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INCLUSION CRITERIA:

- >2 years to <16 years
- Exhibits signs consistent with mild, moderate or severe asthma

EXCLUSION CRITERIA:

- <2 years to >16 years
- Exhibits signs consistent with "critical" asthmatic condition (see algorithm – page 2)

TRIAGE OR INITIAL ASSESSMENT:
(circle where appropriate)

Mental state ♦ normal / agitated / confused / drowsy

Ability to talk/cry ♦ normal / hoarse / some limitation / able to speak in ⁽¹⁾ sentences or ⁽²⁾ words

Accessory muscle use/recession ♦ none / mild / moderate / marked

Wheeze ♦ nil / on expiration / on insp. & expiration / audible without stethoscope / silent chest

Temp: _____ **RR:** _____ **HR:** _____ **SpO₂:** _____

Skin - Colour: PINK / PALE / CYANOSED

- Temp.: COOL / WARM / HOT / DRY

- Central Cap. refill (<2 sec): Y / N

Other: _____

_____ **Signed:**

The following MUST be completed by the triage nurse:

CATEGORY^(NTS): 1 / 2 / 3 / 4 / 5 **Signed:**

RESPIRATORY HISTORY:
(circle where appropriate)

NEW or REPEATED dyspnoea/asthma presentation?

Does the patient have an Asthma Action Plan? Y / N

Previous admissions with asthma? Y / N No.: _____

Previous ICU admissions? Y / N

Does the patient smoke (Y / N) or live with a smoker (Y / N)?

Trigger factors? _____

Interpreter required? Y / N _____

PARENT(S)/GUARDIAN(S): _____

Contact No's: Home - _____

Mobile - _____ Bus.: - _____

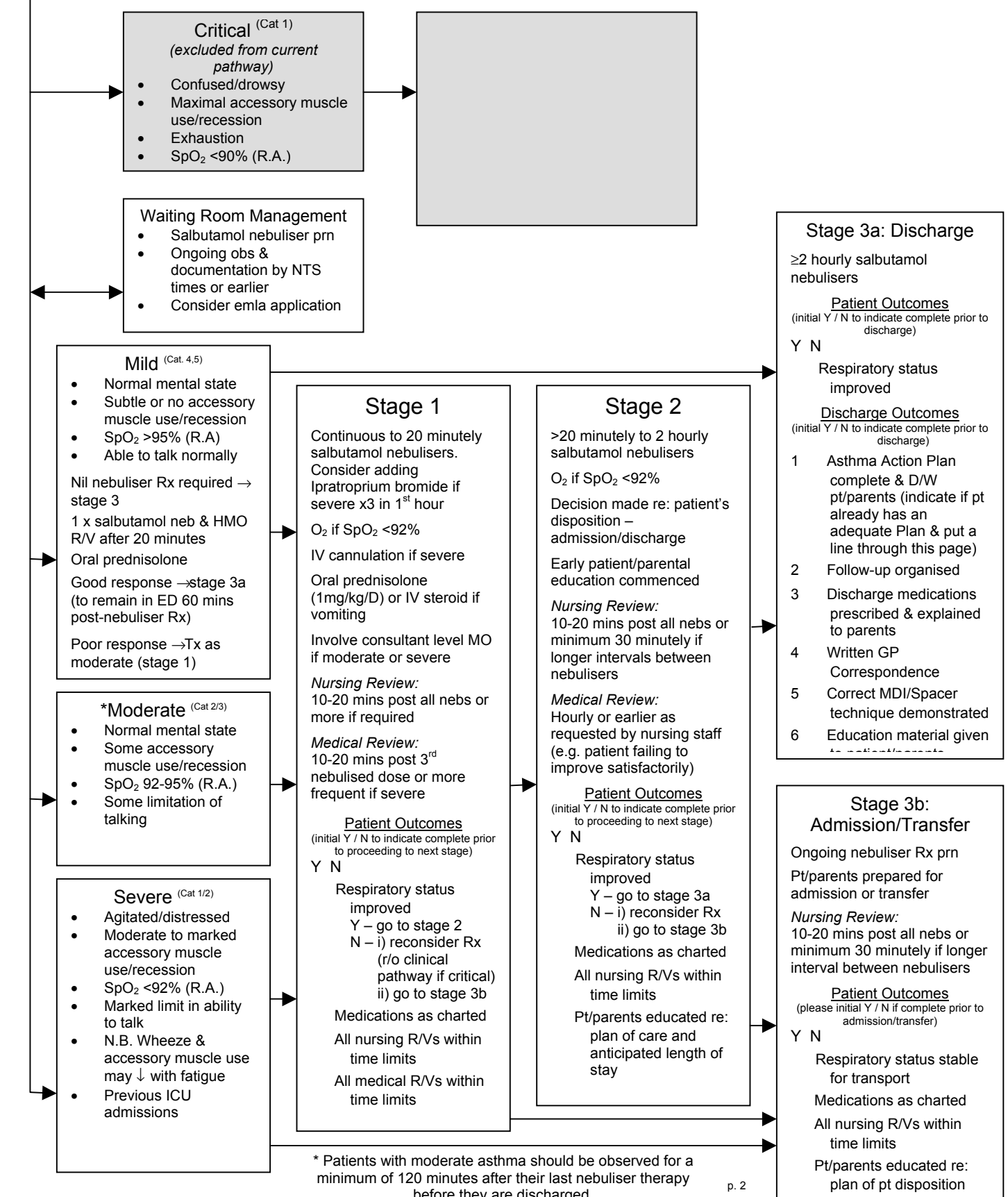
PRIMARY NURSE HISTORY: Time: _____	CUBICLE:	WEIGHT:	ALLERGIES:
_____	IMMUNISATIONS UP TO DATE? Y / N		CURRENT MEDICATIONS: Maintenance: _____ _____ _____ Current episode: _____ _____ Other: _____

SIGNATURE: _____			_____

Initial Nursing Assessment
(see p. 1)

Every staff member who documents within this clinical pathway must record their signature on the Signature Register (see p. 9).

All Patient Outcomes and Discharge Outcomes boxes must be initialled "y" (yes) or "n" (no). If you initial "n", please document in the Variance Record on p.10 of this document.



The Northern Hospital Emergency Department
185 Cooper Street, Epping, Vic., 3076
Telephone: 9219 8000
Facsimile: 9219 8633 (ED)

ASTHMA ACTION PLAN

AFFIX PATIENT IDENTIFICATION LABEL HERE
U.R. NUMBER: _____
SURNAME: _____
GIVEN NAME: _____
DATE OF BIRTH: ____ / ____ / ____ SEX: _____

When well

Preventer (if prescribed)

..... Use times/day

..... Use times/day

Reliever:..... Use(for relief of wheeze or cough)

Symptom controller (if prescribed) Use

Before exercise take Use

When not well (at the first sign of cold or significant increase in wheeze or cough), take:

Reliever: Use times/day

Preventer: Use times/day

..... Use times/day

Symptom controller: Use times/day

When your symptoms get better, return to the doses in the "When well" section

If symptoms get worse

Extra steps to take:

.....

Emergency medication: Strength:

If you follow this plan, but your symptoms get worse, see a doctor immediately or call an ambulance.

Danger signs

- Symptoms get worse quickly
- Wheeze, chest tightness or shortness of breath continue after using the reliever medication or if they return within minutes of taking the reliever medication
- Severe shortness of breath, inability to speak or cry because of breathlessness, blueness of lips or drowsiness, exhaustion or disinterest in surroundings noticed.

If any of these danger signs develop, immediate action is needed: CALL AN AMBULANCE on "000".

While waiting, give every minutes, via

Take this action plan with you when you visit the Doctor.

Please leave this copy of the Asthma Action Plan in this document. It should be photocopied for the family and facsimiled to the GP.



AFFIX PATIENT IDENTIFICATION LABEL HERE

U.R. NUMBER: _____

SURNAME: _____

GIVEN NAME: _____

DATE OF BIRTH: ____/____/____ SEX: _____

DATE: ____ / ____ / ____ DAY:

Dear Doctor _____,

This patient has been discharged from the Emergency Department at The Northern Hospital following treatment for _____.

The patient was treated with the following medications:

1. _____
2. _____
3. _____
4. _____

Other: _____

An appointment WILL / WILL NOT (circle) be made for this patient in The Northern Children's Specialist Centre. If an appointment has been requested, the patient will be contacted by mail within 5 working days. If they do not receive this letter they are asked to please call the Centre on 9219 8417.

The patient was discharged with the medications listed on the attached *Asthma Action Plan*.

We have asked the family to seek review at your surgery at their earliest convenience. We have also suggested that they should see you, or return to our ED if the condition of the patient should fail to improve significantly or deteriorate within the next 48 hours.

Thank-you for continuing the management of this patient.

Yours sincerely,

_____ (Dr. _____ please print).

Please leave this copy of the GP Correspondence in this document. It should be photocopied for the family and facsimiled to the GP.

SOME NOTES ABOUT THIS PATHWAY

- The clinical pathway has been designed to assist in the timely management and disposition of the paediatric patient with asthma. The sentiments do not translate to the management of adults with asthma and should not effect the management of such patients. E.g. IB has been shown through RCTs to have a much greater role in the treatment of adult asthma than it does for children generally.
- Previously, it has not been common practice to record when patients with asthma were reassessed. A “time” column has been added to the “Emergency Department Record” in order to facilitate this process. The working party has designated times that it felt were reasonable for patients with asthma to be reassessed by medical staff (see algorithm, p. 2). Please observe these times and record your reassessments chronologically.
- It is noted that there is not always a consultant on duty in the ED to assess patients. At such times, the senior medical officer on duty in the ED should be asked to assess patients who require this level of review (all mod./severe patients). Consultant also includes review by receiving paediatric consultants/registrars and intensivists.

ADMISSION INDICATIONS

1. All severe presentations
2. Most moderate presentations
3. Mild presentations – not usually, but need to consider:
 - I. Pt/parent reliability and compliance
 - II. Social circumstances (adequate support/supervision)
 - III. Ease of hospital access
 - IV. Patient’s relevant past history – e.g. history of ICU admissions
 - V. Parental resources – consider parental anxiety and reliability
4. Re-presentations within a short period of time (e.g. 3/7)
5. Failure to adequately improve with ED treatment
 - I. Patient/parent viewpoint
 - II. Failure to improve objectively (as noted through ongoing assessment findings)
6. Co-morbid factors
7. First time presentations – many of these children and a parent will require admission for reassurance and education depending on all of the factors listed above. Other factors may need consideration, such as whether the parent(s) already have experience with asthma management in a sibling as well as the level and timeliness of support available from their GP.

DISPOSITION OF THE CHILD WITH ASTHMA

Please consider all of the points above, as well as the time of day or night.

The Clinical Pathway Working Party believes that it is appropriate for the patient with “mild” asthma to be observed for 60 minutes after their last nebulised therapy prior to discharge home. They agreed that the patient with “moderate” asthma should be observed for at least 120 minutes after their last nebulised therapy before it is safe for them to be discharged.

REFERRING TO PAEDIATRIC OUTPATIENTS (AMBULATORY CARE)

1. Parents request to see a paediatrician
2. Any child with a moderate exacerbation of asthma
3. Any child with chronicity of interval symptoms – e.g. nocturnal cough or exercise-induced wheeze.
4. Any child presenting for the first time with wheeze or probable asthma
5. Any child with whom respiratory control is felt not to have been adequately achieved by earlier treatment.
6. When it is felt by the ED HMO that the patient is likely to benefit from a specialist opinion or review.

ALTERNATIVE (DIFFERENTIAL) DIAGNOSES

Please consider the following, especially if there is no past history of asthma.

1. Inhaled foreign body, especially if first episode and no allergies.
2. Cardiac failure in an infant with wheeze.
3. Anaphylaxis in any age group.

OTHER INVESTIGATIONS

The following investigations are not considered routine management of the child with mild, moderate or severe asthma. Each is of course, justifiable and absolutely warranted in many circumstances – some of which have been listed below as guides.

Arterial blood gases (ABGs) – Not usually necessary unless a patient is in extremis and is not responding to appropriate therapy. Helpful when considering intubation and mechanical ventilation.

Chest xrays (CXRs) – Not necessary in the majority of patients unless symptoms or signs consistent with infection (e.g. pneumonia) or a complication (e.g. pneumothorax, mucous plugging, foreign body).

Blood assay – Usually unwarranted unless sepsis is suspected. It has been noted that hypokalaemia may result from an intracellular shift of K⁺ due to beta-adrenergic usage, which can contribute to myocardial irritability (Kardon, 1996). Concomitant use of O₂ may reduce cardiotoxicity exacerbated by hypoxia (Schaffer, 1991).

PHARMACOLOGY

Salbutamol (sulfate) – intermittent: 5mg nebule. Neat: 1 – 4 ml 0.5% solution (not nebules) per dose (Shann, 1998).
IV – Salbutamol – please refer to current Paediatric Pharmacopoeia, RCH (at October 2001, this was 1997).

Ipratropium bromide (e.g. *Atrovent*) – For severe asthma, the addition of 3 doses of either 250µg or 500µg *Atrovent* added to nebulised salbutamol is said to confer benefit if given in the first 60 minutes of treatment (RCH, 1999).

Prednisolone – 1 mg/kg/day for 3 – 5 days (max. 50mg). RCH (1999) and NAC Handbook (1998) states that steroid treatment should be 3 – 5 days if asthma is of sudden onset, but should be given as a weaning course over 10 – 14 days if the exacerbation occurs on a background of unstable asthma.

Intravenous steroid – **Dexamethasone** 0.1 – 0.2 mg/kg Q6H (max. 8mg/dose)(Paed. Pharmacopoeia, RCH 1997).

NEBULISED THERAPY VERSUS THE USE OF METERED DOSE INHALER(MDI)/SPACERS

There is increasing evidence supporting the use of MDI/spacers over the O₂ driven nebuliser systems, especially for mild to moderate exacerbations of asthma (RCH, 1999; Kardon, 1996; NAC, 2001). The former are also said to promote better skills for patient management of acute asthma attacks at home (RCH, 1999). Evidence showing superior efficacy over our current system (O₂ driven nebulisers) has not been great enough for our ED to undergo a change in treatment regime at this point in time however. There are also outstanding questions such as effective cleaning of multiple-use equipment and the cost of purchasing spacers to be considered prior to contemplating a shift in the choice of drug delivery system in our ED. The full reference list is available in resource folder for this clinical pathway.

CLINICAL PATHWAY WORKING PARTY (for versions 1 & 2)

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Thanks to TNH Pharmacy Dept.

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This section has been added to enable folding and filing of the clinical pathway ("Cas. Card") in the ED filing system, TNH.