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RESPIRATORY · PATIENT TEACHING

Asthma *Action Plan* & Patient Teaching

A written, individualized roadmap that empowers patients and families to recognize worsening asthma, respond with the right medications at the right time, and prevent escalation to the ER.

> 📚 **SOURCE TRANSPARENCY:** Topic not in uploaded notes. Content drawn from Saunders NCLEX-RN Review, ATI Med-Surg, Lippincott, NHLBI EPR-3 Asthma Guidelines, and GINA 2024 Global Initiative for Asthma.

1 Definition & Overview

WHAT IS AN ASTHMA ACTION PLAN?

- **A written, personalized plan** developed collaboratively with the HCP that maps symptoms and peak expiratory flow rate (PEFR) to specific medication actions.
- **Uses a traffic-light system** — Green (well), Yellow (caution), Red (emergency) — so patients of any age or literacy level can self-manage and know when to escalate.
- **Why it matters:** Reduces ER visits and hospitalizations, prevents asthma deaths, and is a Joint Commission / NCLEX-prioritized patient safety standard.

2 Pathophysiology

WHY THE ACTION PLAN WORKS

Asthma is a chronic, reversible obstructive airway disease. Recognizing the cascade below helps patients act before the airway closes.

STEP 1
Trigger
Allergen, cold air, exercise, URI, smoke

→

STEP 2
Mast cell degranulation
Histamine & leukotrienes released

→

STEP 3
Airway inflammation
Mucosal edema + mucus plugging

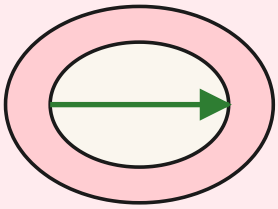
→

STEP 4
Bronchoconstriction
Smooth muscle spasm narrows airways

→

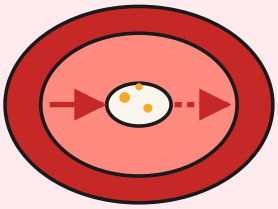
STEP 5
Air trapping & hypoxia
Wheeze, ↓O_2, ↑CO_2, accessory muscles

NORMAL AIRWAY



Open lumen · free airflow

ASTHMATIC AIRWAY



Narrowed lumen · mucus · edema

3 The Traffic Light Zones

HEART OF THE ACTION PLAN · KNOW PEFR % OF PERSONAL BEST

🚦 GREEN · YELLOW · RED

MATCH PEAK FLOW + SYMPTOMS → TAKE THE RIGHT ACTION

GREEN ZONE

PEFR 80–100% personal best

HOW PATIENT FEELS

- No cough, wheeze, or chest tightness
- Sleeps through the night
- Performs usual activities

ACTION

- Continue **daily controller** (ICS)
- Avoid known triggers
- Pre-treat before exercise if ordered

✅ **STAY THE COURSE — keep taking controllers even when feeling well**

YELLOW ZONE

PEFR 50–79% personal best

HOW PATIENT FEELS

- Coughing, wheezing, mild SOB
- Chest tightness
- Waking at night with symptoms
- Decreased activity tolerance

ACTION

- **Add rescue inhaler** (albuterol 2–4 puffs q4h)
- Continue controller medication
- May start oral corticosteroid per plan
- Call HCP if not back to Green in 24 h

⚠️ **CAUTION — asthma getting worse, treat early**

RED ZONE

PEFR < 50% personal best

HOW PATIENT FEELS

- **Severe SOB** — can't speak in full sentences
- Rescue inhaler NOT helping
- Lips or fingernails blue (cyanosis)
- Retractions, tripod position
- Drowsy, confused, ↓ LOC

ACTION

- Take rescue inhaler **NOW**
- Sit upright, stay calm
- Have someone drive to ER

🚨 CALL 911 IMMEDIATELY 🚨

4 Signs & Symptoms

EARLY RECOGNITION VS LATE / SEVERE RED FLAGS

⚡ Early / Mild (Yellow)

- ⚡ Expiratory wheeze, "musical" breathing
- ⚡ Dry, persistent cough (esp. at night)
- ⚡ Chest tightness or pressure
- ⚡ Mild dyspnea on exertion
- ⚡ ↑ Respiratory rate
- ⚡ PEFR 50–79% of personal best

🚨 Late / Severe (Red)

- 🚨 **SILENT CHEST** — no wheeze = ominous, near-total obstruction
- 🚨 Cannot speak in full sentences (1–2 words only)
- 🚨 Use of accessory muscles, retractions
- 🚨 Tripod positioning
- 🚨 Cyanosis (lips, nail beds)
- 🚨 Diaphoresis, tachycardia >120
- 🚨 ↓ LOC, confusion, drowsiness
- 🚨 SpO_2 < 90%, PEFR < 50%

5 Priority Nursing Interventions

ABC FRAMEWORK · ACUTE EXACERBATION

A
AIRWAY

- ✓ Assess airway patency & auscultate breath sounds
- ✓ Position high-Fowler's or tripod
- ✓ Suction PRN if mucus plugging
- ✓ Prepare for intubation if silent chest

B
BREATHING

- ✓ Administer O_2 to keep SpO_2 ≥ 92%
- ✓ Give SABA (albuterol) FIRST — nebulizer or MDI + spacer
- ✓ Add ipratropium (Atrovent) if severe
- ✓ IV / PO corticosteroids per order
- ✓ Monitor PEFR before & after treatments

C
CIRCULATION

- ✓ Continuous SpO_2 & cardiac monitoring
- ✓ Watch for tachycardia (β-agonist side effect)
- ✓ IV access & fluids — thin secretions
- ✓ Monitor ABGs — early respiratory alkalosis → late acidosis

6 Pharmacology

CONTROLLERS VS RESCUE — NEVER CONFUSE THESE

CLASS / DRUG	MECHANISM	USE	KEY SIDE EFFECTS	NURSING PEARLS
SABA Albuterol, Levalbuterol	β_2-agonist → bronchodilation in 5–15 min	**RESCUE** (acute)	Tachycardia, tremor, hypokalemia, anxiety	First-line in attack · use FIRST if combo · > 2× / wk = poor control
Anticholinergic Ipratropium (Atrovent)	Blocks ACh → relaxes smooth muscle	**RESCUE** adjunct	Dry mouth, urinary retention	Often combined w/ albuterol (DuoNeb) in severe attack
Oral Steroid Prednisone	↓ inflammation systemically	**RESCUE** (short burst)	Hyperglycemia, mood, ↑BP, immunosuppression	Short burst 3–10 days · taper if > 14 days · take w/ food
ICS Fluticasone, Budesonide, Beclomethasone	↓ airway inflammation locally	**CONTROLLER** (daily)	Oral candidiasis (thrush), hoarseness, dysphonia	**RINSE MOUTH** after every dose · NOT for acute attack · daily even when well
LABA Salmeterol, Formoterol	Long-acting β_2-agonist (12+ h)	**CONTROLLER** add-on	Tachycardia · BLACK BOX warning if used alone	**NEVER monotherapy** — only with ICS (Advair, Symbicort)
Leukotriene Modifier Montelukast (Singulair)	Blocks leukotriene receptor	**CONTROLLER** · exercise / allergic asthma	BLACK BOX: neuropsychiatric (mood, suicidality)	Take in evening · report mood changes
Biologic Omalizumab (Xolair)	Anti-IgE monoclonal antibody	**CONTROLLER** · severe allergic asthma	Anaphylaxis risk, injection site reaction	SQ in office · observe 2 h post-dose · EpiPen on hand

7 NCLEX Test Traps

WHERE STUDENTS LOSE POINTS

Trap #1 · Wrong inhaler for the moment

Patient in active attack — which inhaler first?

~~✕ WRONG~~

~~Reach for the fluticasone (ICS) — it's the controller~~

✅ RIGHT

Give albuterol (SABA) FIRST — opens airway in minutes

Trap #2 · "Patient feels fine, stop daily inhaler"

Symptom-free does NOT mean cured.

~~✕ WRONG~~

~~Discontinue ICS when wheezing stops~~

✅ RIGHT

Continue daily controller in Green Zone — prevents next attack

Trap #3 · The "silent chest" trap

No wheezing = better? Wrong direction.

~~✕ WRONG~~

~~"Lungs clear, patient improving"~~

✅ RIGHT

Silent chest = NEAR-TOTAL OBSTRUCTION → call rapid response

Trap #4 · Inhaler order with combo therapy

If both prescribed, which comes first?

~~✕ WRONG~~

~~Give ICS first, then bronchodilator~~

✅ RIGHT

Bronchodilator (SABA) FIRST, wait 5 min, then ICS — opens airway so steroid penetrates

Trap #5 · Forgetting mouth rinse after ICS

Most common patient teaching omission.

~~✕ WRONG~~

~~"Just take it and you're done"~~

✅ RIGHT

Rinse mouth & spit after every ICS dose → prevents oral thrush

Trap #6 · LABA alone

NCLEX loves to test this Black Box.

~~✕ WRONG~~

~~Salmeterol prescribed as solo controller~~

✅ RIGHT

LABA must ALWAYS be combined with an ICS — solo LABA ↑ asthma death risk

8 Patient & Family Education

SELF-MANAGEMENT IS THE WIN CONDITION

Carry the written plan
Keep a copy at home, school, daycare, work, and in wallet/phone.

Establish personal best PEFR
Highest reading over 2–3 symptom-free weeks. Recheck every 6 mo.

Peak flow daily, same time
Stand, deep breath, fast blast — best of 3 readings.

Use a spacer with MDI
Doubles drug delivery to lungs · shake → exhale → press → inhale slowly 5 sec → hold 10 sec.

Rinse mouth after ICS
Swish & spit water — prevents oral thrush & hoarseness.

Avoid triggers
Smoke, dust mites, pets, mold, cold air, strong scents, NSAIDs (some patients), beta-blockers.

Stay current on vaccines
Annual flu shot · pneumococcal · COVID-19 boosters.

Always carry rescue inhaler
Replace before expiration · check dose counter · NEVER share.

Pre-medicate for exercise
2 puffs albuterol 15 min before activity if ordered.

Know when to call 911
Red Zone signs · no relief from rescue · blue lips · cannot talk.

9 Memory Boosters

MNEMONICS & PATTERN RECOGNITION

The Traffic Light

- **G** **Green = GO** — feeling great, stay on controllers
- **Y** **Yellow = SLOW** — add rescue, watch closely
- **R** **Red = STOP & CALL** — rescue + 911

Triggers — "ABCDE"

- **A** **A**llergens (pollen, pets, dust)
- **B** **B**ugs (viral URI, sinusitis)
- **C** **C**old air, **C**igarette smoke
- **D** **D**ust, mold, strong odors
- **E** **E**xercise, **E**motions (stress)

Inhaler Roles

- **R** **R**escue = **R**apid · albuterol · Red can lid
- **C** **C**ontroller = **C**onsistent · ICS · daily
- **B** Bronchodilator **B**efore steroid (5 min wait)

Severe Attack — "STRIDOR"

- **S** **S**ilent chest (worst sign)
- **T** **T**ripod position
- **R** **R**etractions
- **I** **I**nability to speak in sentences
- **D** **D**iaphoresis
- **O** L**O**w SpO_2 (<90%)
- **R** Cyanosis (b**R**uised lips)

10 NCJMM Clinical Judgment Walkthrough

NEXT GENERATION NCLEX · 6-STEP MODEL IN ACTION

📍 CLINICAL SCENARIO

10-year-old male with moderate persistent asthma comes to school nurse's office during PE. Mother reports he's been coughing at night for 3 nights. School records show personal best PEFR = 300 L/min. Current reading: **PEFR 195 L/min (65%)**. Vitals: HR 108, RR 26, SpO_2 94%, mild expiratory wheeze, able to speak in short sentences. He has albuterol MDI and fluticasone MDI in his backpack. Last albuterol use: yesterday morning.

STEP 1

Recognize Cues

- PEFR 65% → **Yellow Zone**
- Night cough × 3 (poor control marker)
- Mild expiratory wheeze
- Tachypnea, mild tachycardia
- SpO_2 94% (mild hypoxia)
- Able to speak — not red zone yet

STEP 2

Analyze Cues

PEFR + symptoms = **moderate exacerbation in Yellow Zone**. Night symptoms indicate inadequate controller therapy or trigger exposure. Bronchoconstriction is reversible — rescue inhaler is the priority intervention. No silent chest, no cyanosis = not yet emergent.

STEP 3

Prioritize Hypotheses

#1 Acute bronchoconstriction requiring SABA
#2 Inadequate controller adherence
#3 Trigger exposure (PE = exercise, pollen?)
Rule out: pneumonia, foreign body, anaphylaxis

STEP 4

Generate Solutions

- Albuterol 2–4 puffs via spacer NOW
- Sit upright, calm reassurance
- Reassess PEFR & SpO_2 in 15 min
- Notify mother & HCP
- Excuse from PE today
- Review action plan together

STEP 5

Take Action

Nurse administers **albuterol 4 puffs via MDI + spacer**, positions upright, calls mother. After 15 min: PEFR 270 L/min (90%), SpO_2 98%, no wheeze, breathing comfortably. Reviews ICS technique — child admits skipping morning doses.

STEP 6

Evaluate Outcomes

✅ PEFR returned to Green Zone
✅ SpO_2 normalized
✅ Symptoms resolved
✅ Education reinforced re: daily ICS
☐ Plan: HCP follow-up this week, mom signs updated action plan, school keeps copy on file.