Asthma SmartForm Quick Reference Guide

Asthma SmartForm Version 1.0

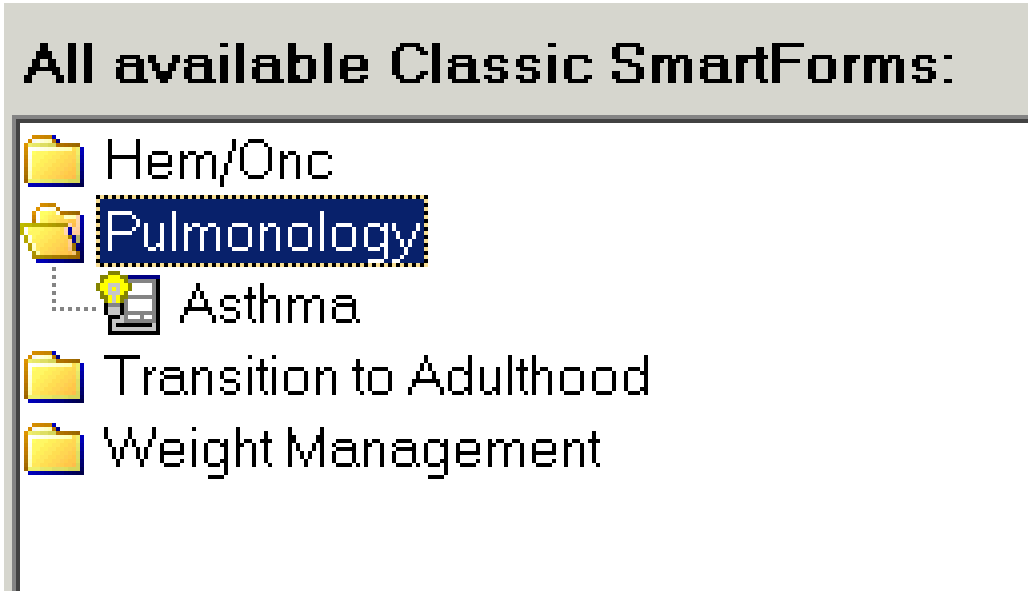
© 2009 The Nemours Foundation, Clinical Management Program (NCMP). All rights reserved.

Table of Contents

Accessing the SmartForm	3	Assessment	18
Navigating the SmartForm	5	Severity and Control	20
Data Elements	7	NHLBI Guidelines	22
HPI	8	NHLBI Stepwise Approach	23
ACT	10	Action Plan	25
Past History	11	Education	28
Exam	13	Progress Note	30
Medication	16	Contact	32

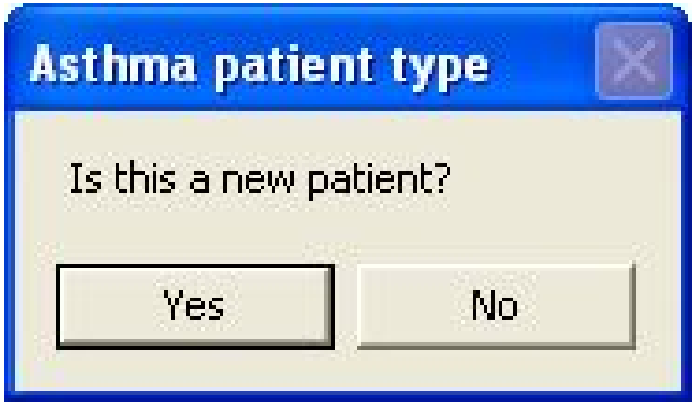
Accessing the SmartForm 3

- The Asthma SmartForm is available under SmartForms from the Action Menu.
  - From the Action Menu choose Classic SmartForms
  - A dialog box appears with the list of available Encounter SmartForms
  - Select Asthma



Accessing the SmartForm

- Before the SmartForm opens a dialog box appears asking “Is this a new patient?”
  - Click “Yes”, if this is an initial asthma visit
  - Click “No” if the patient was seen previously for Asthma

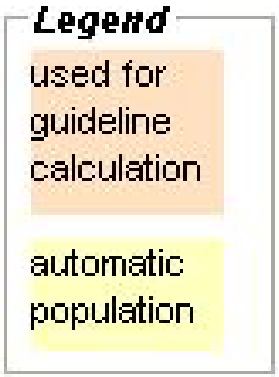


Navigating the SmartForm

- The Asthma SmartForm contains 7 sections:
  - **HPI:** this section documents the history of present illness
  - **Past Hx's:** this section shows the birth history, past medical, surgical, and family history
  - **Exam:** documentation of the exam elements (i.e. HEENT, chest, abdomen, extremities, neurological)
  - **Medication:** lists all current medications
  - **Assessment:** determination of guideline based asthma severity and control
  - **Action Plan:** creates and prints an Asthma Action Plan
  - **Education:** documentation of education delivered at the visit

Navigating the SmartForm 6

- Responses are color-coded to indicate the source of information



Field used in calculation of severity and/or control based on NHBLI guidelines

Pulled from the patient's electronic medical record

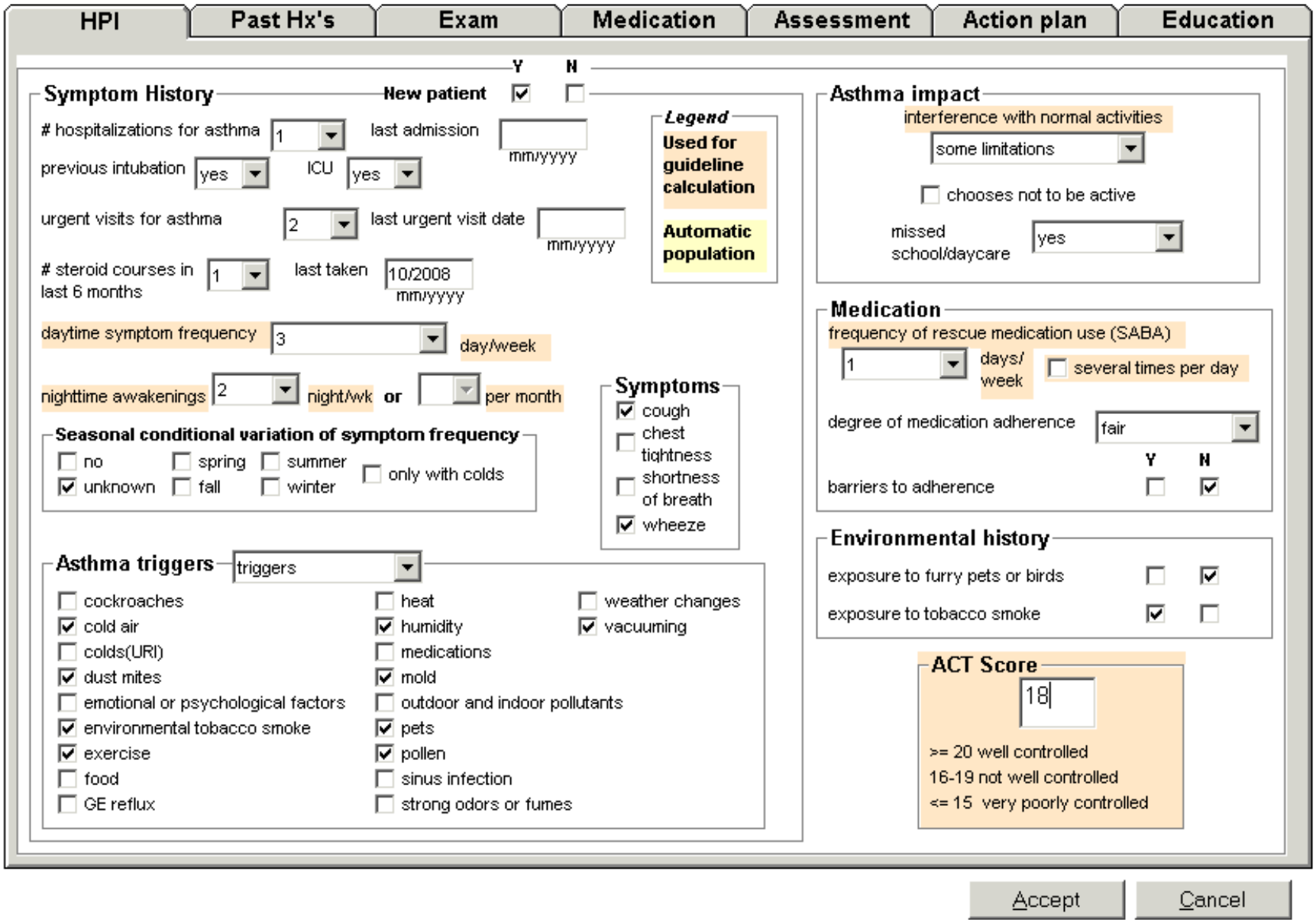
- Helpful Hints:
  - Do not click the "Accept" button until data entry is complete. Clicking "Accept" will close the SmartForm. To navigate through the sections of the SmartForm, click on the Tabs at the top.
  - When "N/F" appears in a pulled field, no value was found.

Data Elements

- Data elements can be stored as patient level or encounter level.
- Patient level elements are entered once and updated only as necessary.
  - For example, if patient has never been intubated previously, choose “no” from the drop-down list.

  - Unless changed after consultation with patient and caregiver, the data field will remain “no” on each subsequent visit.
- Encounter level elements are entered at each visit.
  - Examples of encounter level elements are the physical exam findings.

HPI

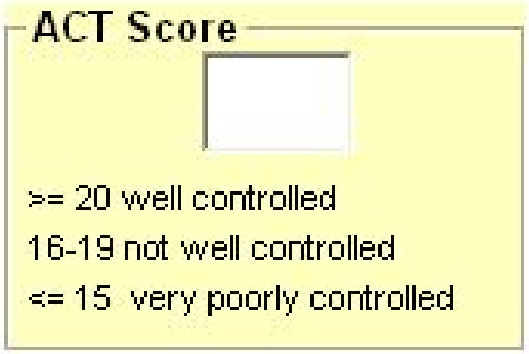

HPI
Past Hx's
Exam
Medication
Assessment
Action plan
Education
Y
N
Symptom History
New patient
hospitalizations for asthma
1
last admission
mm/yyyy
previous intubation
yes
ICU
yes
urgent visits for asthma
2
last urgent visit date
mm/yyyy
steroid courses in last 6 months
1
last taken
10/2008
mm/yyyy
daytime symptom frequency
3
day/week
nighttime awakenings
2
night/wk
or
per month
Legend
Used for guideline calculation
Automatic population
Seasonal conditional variation of symptom frequency
no
spring
summer
only with colds
unknown
fall
winter
Symptoms
cough
chest tightness
shortness of breath
wheeze
Asthma triggers
triggers
cockroaches
cold air
colds(URI)
dust mites
emotional or psychological factors
environmental tobacco smoke
exercise
food
GE reflux
heat
humidity
medications
mold
outdoor and indoor pollutants
pets
pollen
sinus infection
strong odors or fumes
weather changes
vacuuming
Asthma impact
interference with normal activities
some limitations
chooses not to be active
missed school/daycare
yes
Medication
frequency of rescue medication use (SABA)
1
days/ week
several times per day
degree of medication adherence
fair
barriers to adherence
Environmental history
exposure to furry pets or birds
exposure to tobacco smoke
ACT Score
18
>= 20 well controlled
16-19 not well controlled
<= 15 very poorly controlled
Accept
Cancel

HPI

- Symptom history and frequency (patient level)
  - Hospitalizations are patient level and represents a cumulative total. For example, if a patient is hospitalized twice since the last visit, add 2 to the number of hospitalizations from last visit and enter the date of the last hospitalization.
- Environmental triggers (patient level)
  - Check known asthma triggers, if any.
- Impact (encounter level)
  - Impact of asthma on activities of daily living
- Medication use (encounter level)
  - Use of SABA, degree of adherence and barriers
- Environmental history (encounter level)
  - Exposure to smoke and pets
- ACT score, if completed at the visit (encounter level)

ACT

- The Childhood Asthma Control Test (C-ACT or ACT) developed by Andrew H. Lui et al[1] is a validated instrument used as a measure of asthma control. Two versions of the questionnaire are available:
  - Childhood Asthma Control Test (age 4 -11)
  - Childhood Asthma Control Test (age 12 and older)
- Total score is calculated and entered under the ACT Score in the HPI section.



[1] Liu AH, Zeiger R, Sorkness C et al. Development and cross-sectional validation of the Childhood Asthma Control Test. *J Allergy Clin Immunol* 2007 April;119(4):817-25.

Past History

- This section contains information from the patient's medical record.
  - Birth History
  - Past Medical History
  - Past Surgical History
  - Past Family History
- The information contained on this tab is read only.
- Updates or corrections are made in the appropriate sections in EpicCare.

Past History

HPI | Past Hx's | Exam | Medication | Assessment | Action plan | Education

Birth history

Pediatric History
BIRTH Weight: 6 lb 12 oz (3.062 kg)

Past medical history

Problem/Date	Comments
Lactose Intolerance	

Past surgical history

Surgery	Date	Comment
HX ABDOMINAL HERNIA REPAIR	5/1/07	

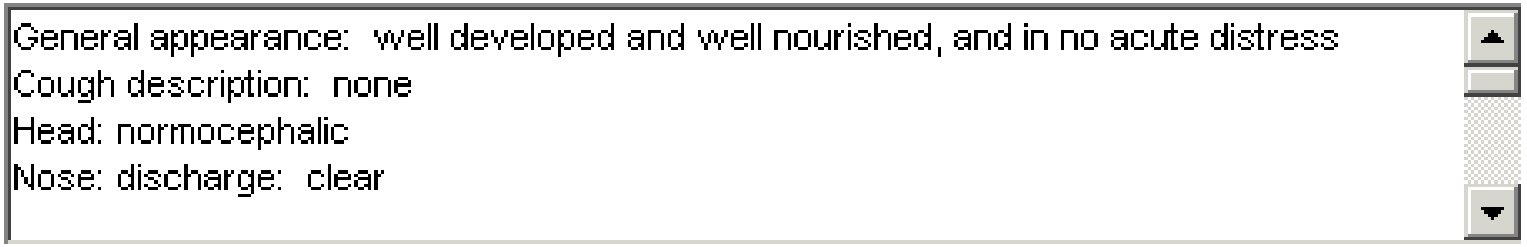
Family medical history

Problem	Relation	Comments
Asthma	Brother	
Other	Father	Smokes cigars

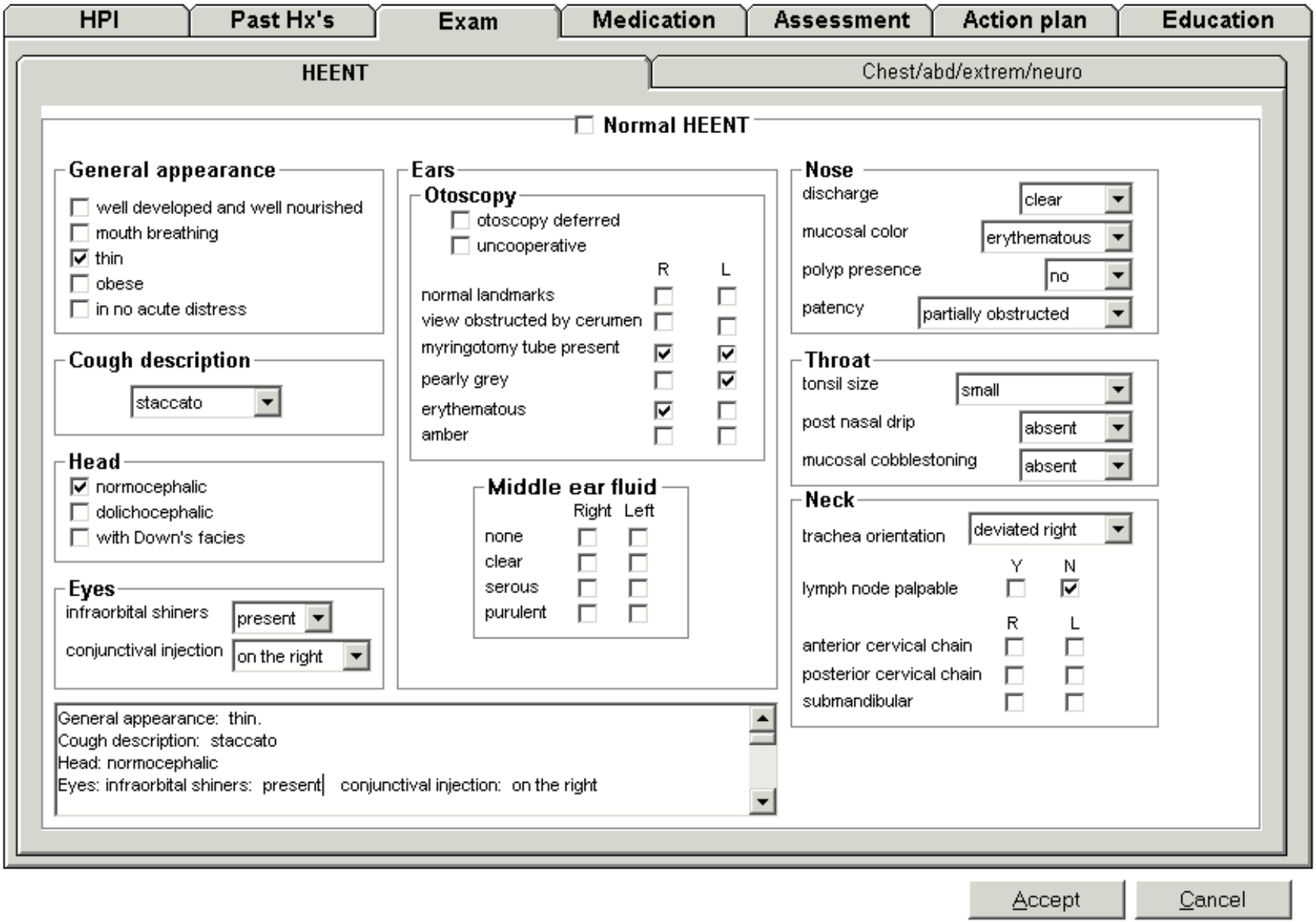
Accept | Cancel

Exam

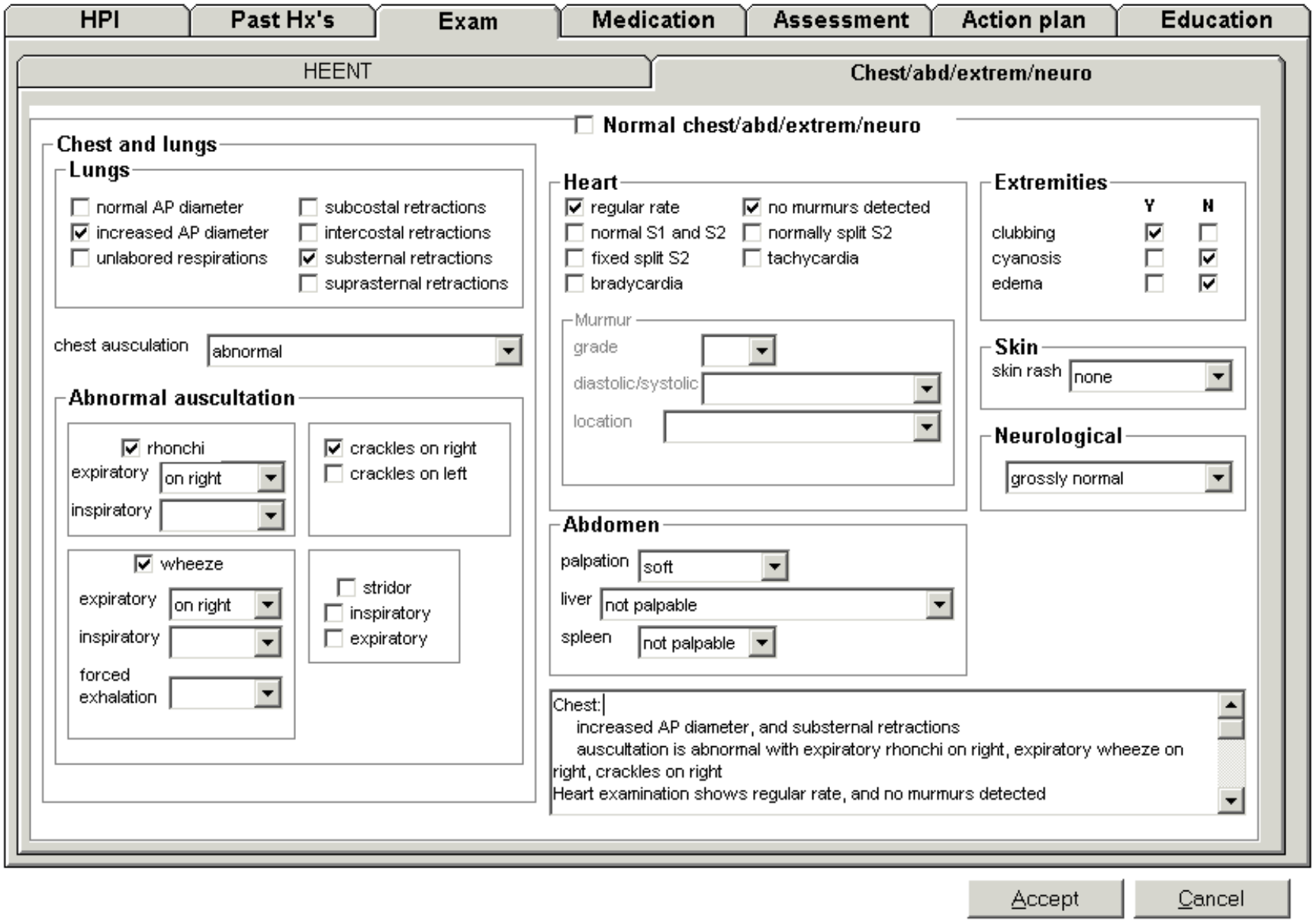
- The Exam Tab is divided into two subsections: HEENT and chest/abd/extrem/neuro.
- Check ☐ **Normal HEENT** to indicate all HEENT elements are normal. Check ☐ **Normal chest/abd/extrem/neuro** to indicate all chest, lungs, heart, abdomen, extremities, skin and neurological exam elements are normal.
- Uncheck the Normal box to clear all “normal” exam elements. Individual items checked will remain checked.
- Each physical exam item can be changed individually.
- An exam note is built as items are checked:



Exam: HEENT


HPI
Past Hx's
Exam
Medication
Assessment
Action plan
Education
HEENT
Chest/abd/extrem/neuro
Normal HEENT
General appearance
well developed and well nourished
mouth breathing
thin
obese
in no acute distress
Cough description
staccato
Head
normocephalic
dolichocephalic
with Down's facies
Eyes
infraorbital shiners
present
conjunctival injection
on the right
Ears
Otoscopy
otoscopy deferred
uncooperative
R
L
normal landmarks
view obstructed by cerumen
myringotomy tube present
pearly grey
erythematous
amber
Middle ear fluid
Right
Left
none
clear
serous
purulent
Nose
discharge
clear
mucosal color
erythematous
polyp presence
no
patency
partially obstructed
Throat
tonsil size
small
post nasal drip
absent
mucosal cobblestoning
absent
Neck
trachea orientation
deviated right
Y
N
lymph node palpable
R
L
anterior cervical chain
posterior cervical chain
submandibular
General appearance: thin.
Cough description: staccato
Head: normocephalic
Eyes: infraorbital shiners: present conjunctival injection: on the right
Accept
Cancel

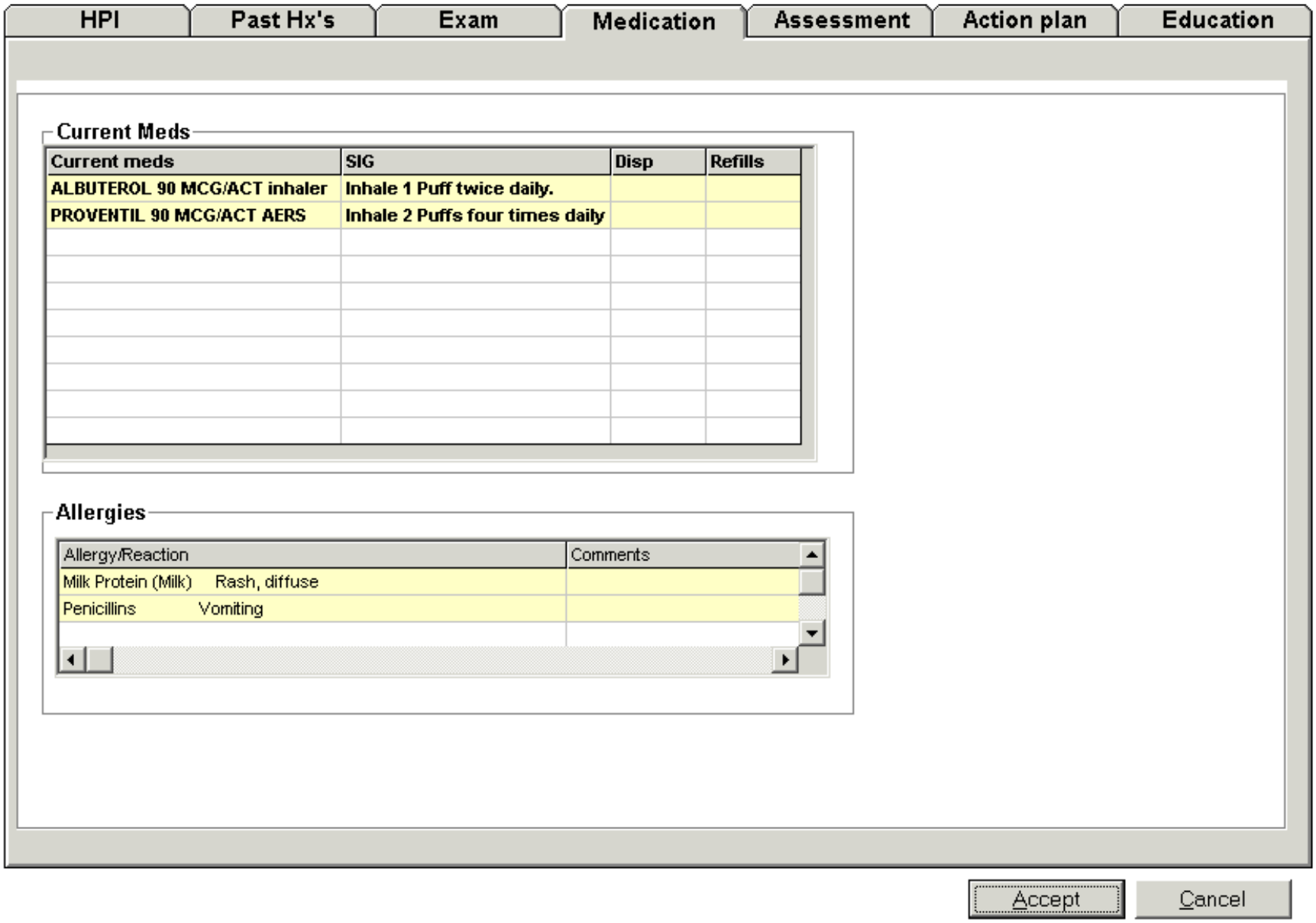
Exam: chest/abd/extrem/neuro 15



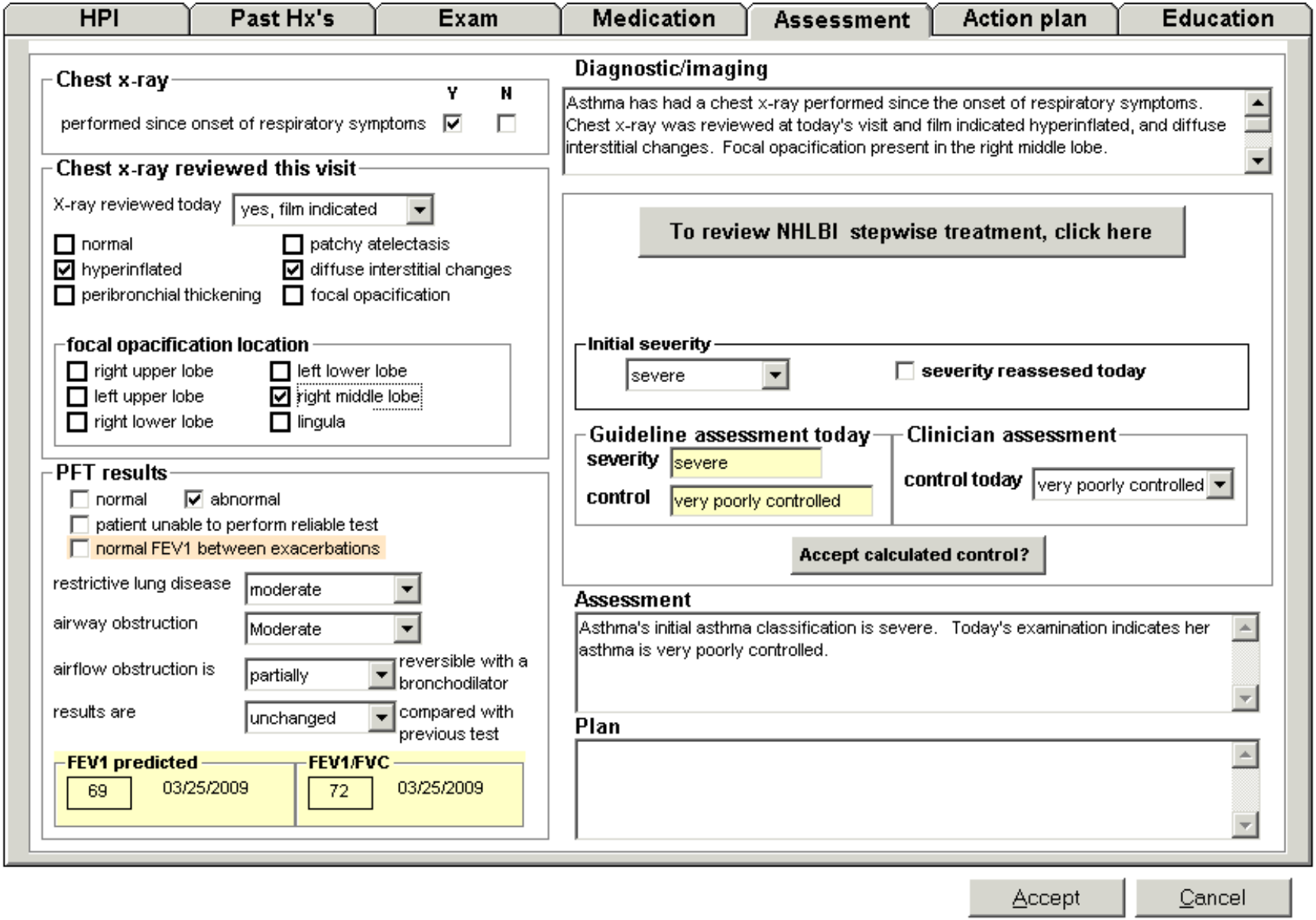
Medication

- This section lists the patient’s current medications and allergies.
- The information contained on this tab is pulled from EpicCare and is **read only**.
- If there are inaccuracies, updates or corrections should be made in the appropriate sections of EpicCare.

Medication

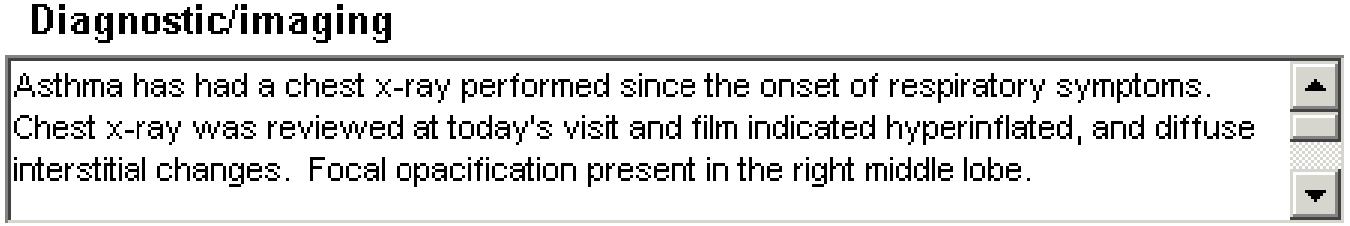

HPI
Past Hx's
Exam
Medication
Assessment
Action plan
Education
Current Meds
Current meds
SIG
Disp
Refills
ALBUTEROL 90 MCG/ACT inhaler
Inhale 1 Puff twice daily.
PROVENTIL 90 MCG/ACT AERS
Inhale 2 Puffs four times daily
Allergies
Allergy/Reaction
Comments
Milk Protein (Milk) Rash, diffuse
Penicillins Vomiting
Accept
Cancel

Assessment

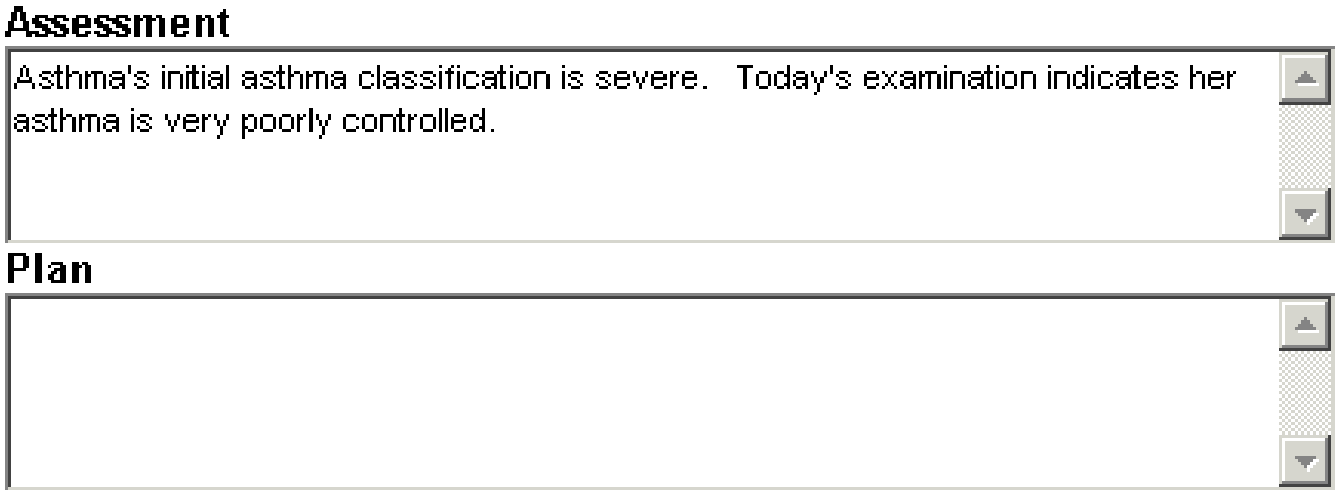

HPI
Past Hx's
Exam
Medication
Assessment
Action plan
Education
Chest x-ray
Y
N
performed since onset of respiratory symptoms
Chest x-ray reviewed this visit
X-ray reviewed today
yes, film indicated
normal
hyperinflated
peribronchial thickening
patchy atelectasis
diffuse interstitial changes
focal opacification
focal opacification location
right upper lobe
left upper lobe
right lower lobe
left lower lobe
right middle lobe
lingula
PFT results
normal
abnormal
patient unable to perform reliable test
normal FEV1 between exacerbations
restrictive lung disease
moderate
airway obstruction
Moderate
airflow obstruction is
partially
reversible with a bronchodilator
results are
unchanged
compared with previous test
FEV1 predicted
69
03/25/2009
FEV1/FVC
72
03/25/2009
Diagnostic/imaging
Asthma has had a chest x-ray performed since the onset of respiratory symptoms. Chest x-ray was reviewed at today's visit and film indicated hyperinflated, and diffuse interstitial changes. Focal opacification present in the right middle lobe.
To review NHLBI stepwise treatment, click here
Initial severity
severe
severity reassesed today
Guideline assessment today
severity
severe
control
very poorly controlled
Clinician assessment
control today
very poorly controlled
Accept calculated control?
Assessment
Asthma's initial asthma classification is severe. Today's examination indicates her asthma is very poorly controlled.
Plan
Accept
Cancel

Assessment

- The Provider documents chest x-ray and PFT results. A note summarizing these results is built in the Diagnostic/Imaging box on the right side of the Assessment tab.

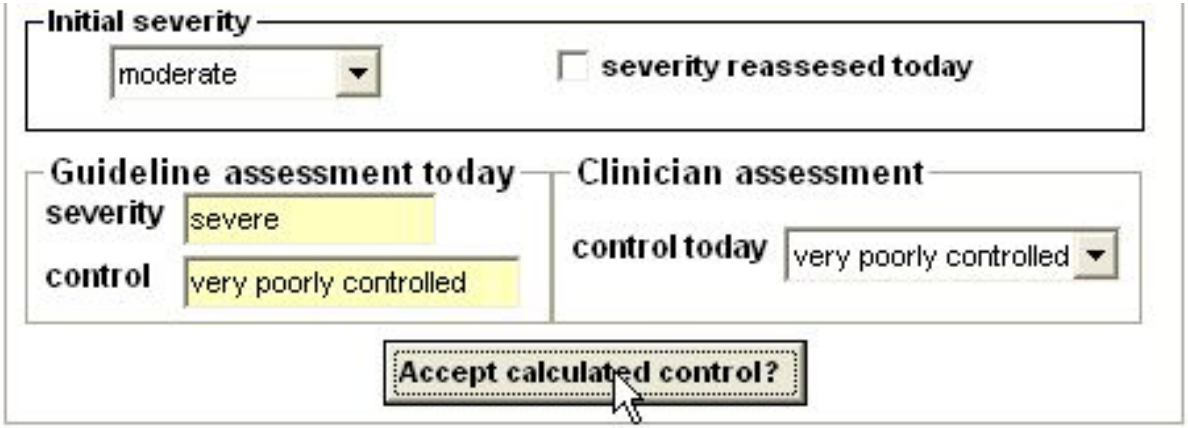


- The assessment is populated based on the control and/or severity classifications determined at the visit. The Provider enters the Plan.

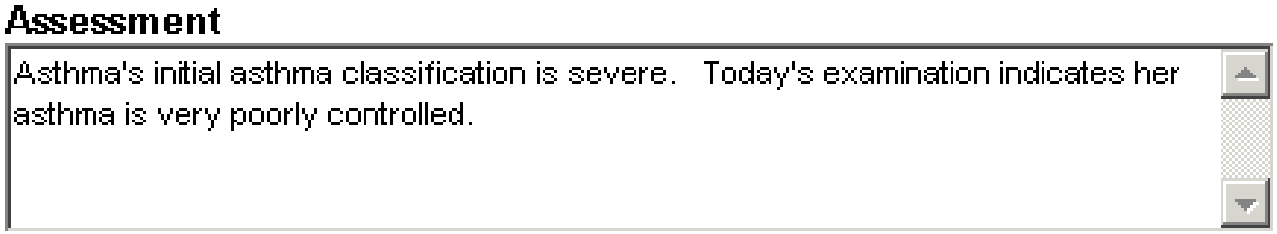


Severity and Control

- Based on the information entered, the patient's severity and control are calculated.
  - Entry of at least 1 element is required for calculation
  - The most severe entry selected dictates the final calculation
  - The calculated severity and control appears under "Guideline assessment today"



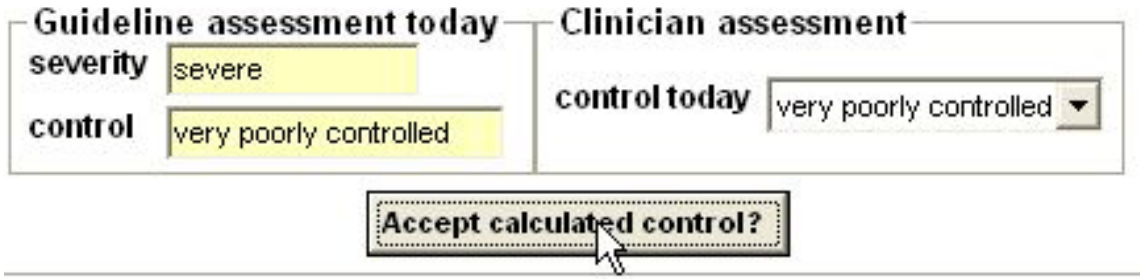
Note populated based on entries.



Severity and Control

- Severity (patient level)
  - The severity classification from the initial visit appears.
  - Periodic re-assessment may be needed. If severity is reassessed, change severity classification (if appropriate) and check the box “severity reassessed today”.

- Control (encounter level)
  - Click on “Accept calculated control?” to accept NHLBI guideline calculation of control **OR** choose the appropriate control classification under Clinician assessment.



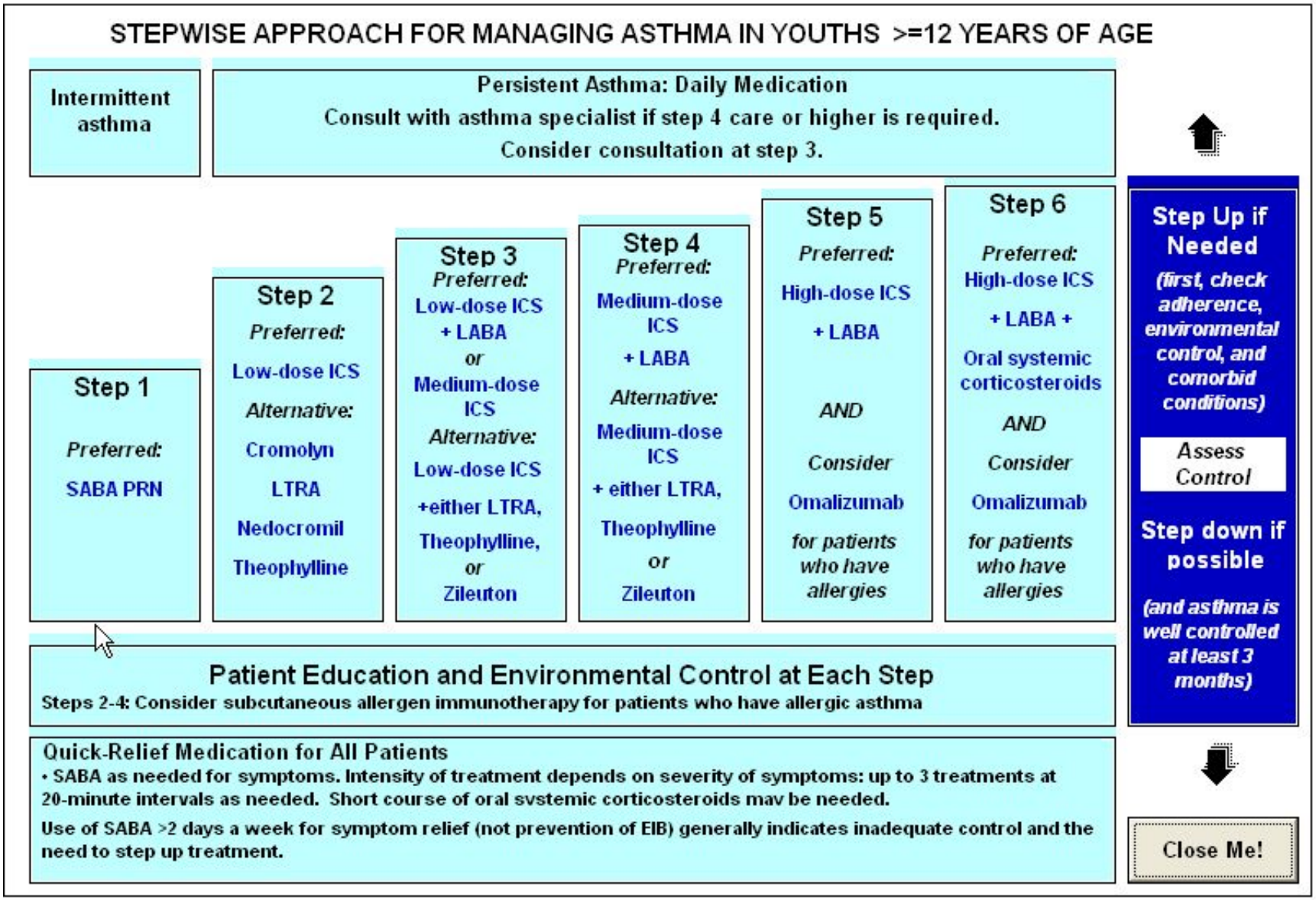
NHLBI Guidelines

Click here to review the recommended treatment

NHLBI guidelines suggest a stepwise approach. Step 3 or 4 should be considered for severity classified as moderate, assuming the patient is well controlled.

After determining the patient's severity and/or control, this box appears with the NHLBI guideline recommendation for treatment.

NHLBI Stepwise Approach



NHLBI Stepwise Approach

Step 3

Preferred:

Low-dose ICS + LABA

or

Medium-dose ICS

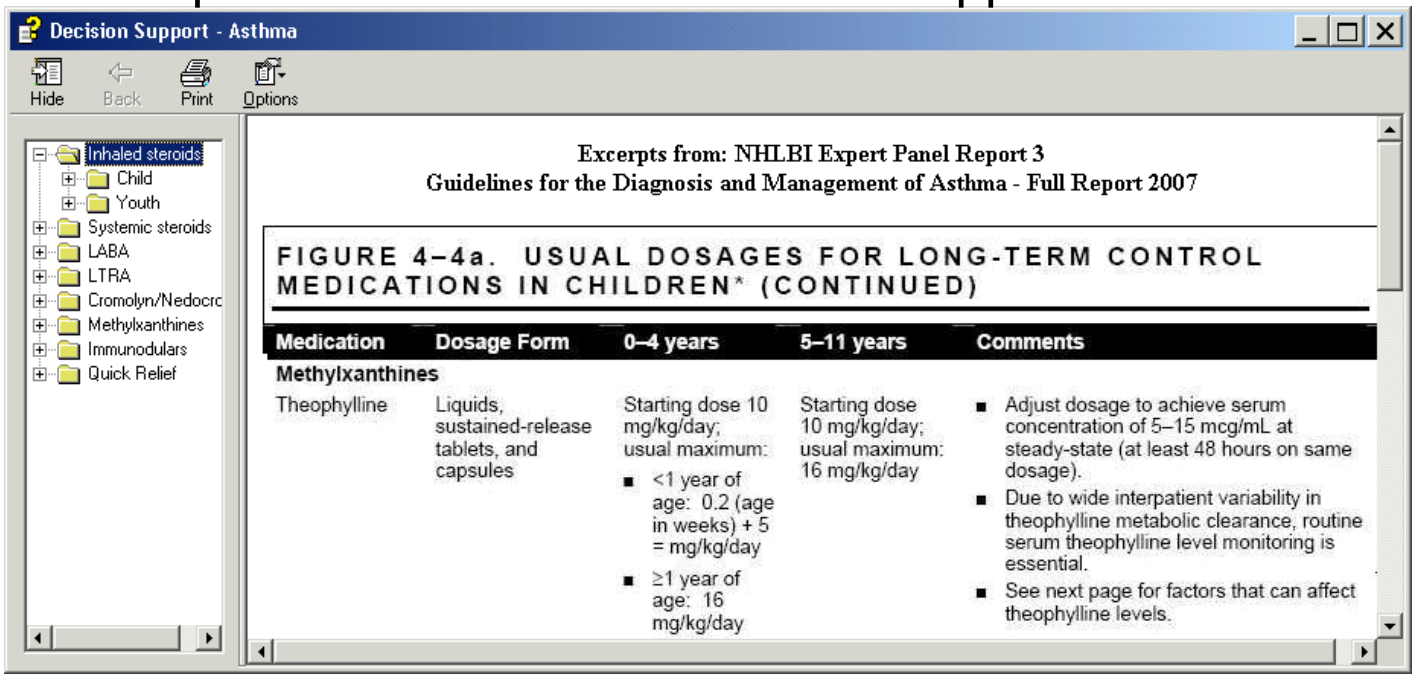
Alternative:

Low-dose ICS +either LTRA, Theophylline, *or* Zileuton

Click on the **blue** hyperlinked text to review medication dosing.

Excerpts from the NHLBI Guidelines appear:

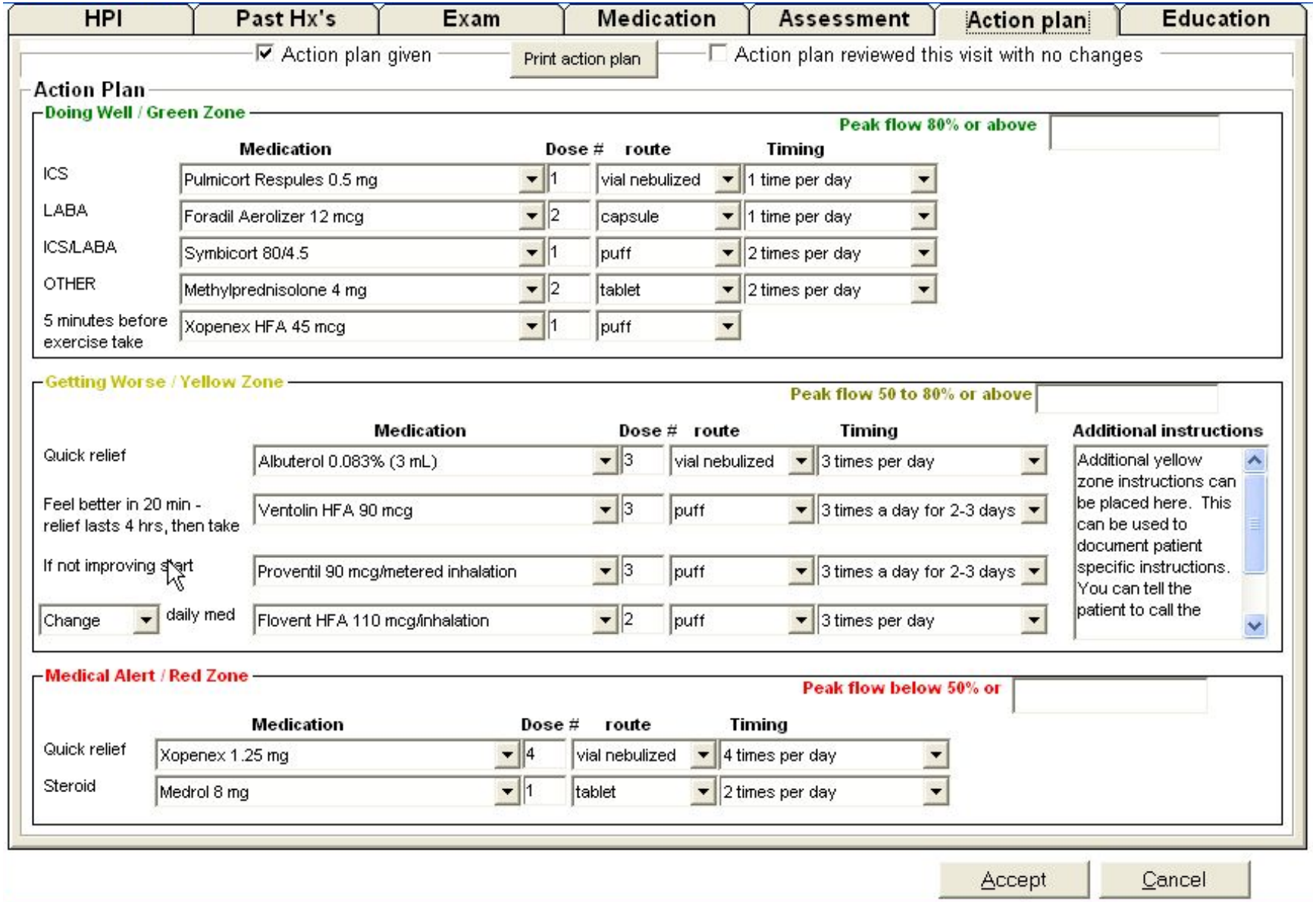
Use menu to view other excerpts



Action Plan

- Complete the action plan by entering the appropriate medication, dosing and timing for the Green Zone (Doing Well), Yellow Zone (Getting Worse) and Red Zone (Medical Alert).
- Click on the Print action plan button. The customized action plan is printed and the “Action plan given” box is checked.
- For all subsequent visits, the fields are pre-populated from the last visit. If there are no changes since last visit, check the box “Action plan reviewed this visit with no changes”.

Action Plan


HPI
Past Hx's
Exam
Medication
Assessment
Action plan
Education
Action plan given
Print action plan
Action plan reviewed this visit with no changes
Action Plan
Doing Well / Green Zone
Peak flow 80% or above
Medication
Dose #
route
Timing
ICS
Pulmicort Respules 0.5 mg
1
vial nebulized
1 time per day
LABA
Foradil Aerolizer 12 mcg
2
capsule
1 time per day
ICS/LABA
Symbicort 80/4.5
1
puff
2 times per day
OTHER
Methylprednisolone 4 mg
2
tablet
2 times per day
5 minutes before exercise take
Xopenex HFA 45 mcg
1
puff
Getting Worse / Yellow Zone
Peak flow 50 to 80% or above
Medication
Dose #
route
Timing
Additional instructions
Quick relief
Albuterol 0.083% (3 mL)
3
vial nebulized
3 times per day
Feel better in 20 min - relief lasts 4 hrs, then take
Ventolin HFA 90 mcg
3
puff
3 times a day for 2-3 days
If not improving start
Proventil 90 mcg/metered inhalation
3
puff
3 times a day for 2-3 days
Change
daily med
Flovent HFA 110 mcg/inhalation
2
puff
3 times per day
Additional yellow zone instructions can be placed here. This can be used to document patient specific instructions. You can tell the patient to call the
Medical Alert / Red Zone
Peak flow below 50% or
Medication
Dose #
route
Timing
Quick relief
Xopenex 1.25 mg
4
vial nebulized
4 times per day
Steroid
Medrol 8 mg
1
tablet
2 times per day
Accept
Cancel

Action Plan Printout

Nemours
Asthma Action Plan - Symptoms

6/8/2009
Plan Zzact

Doing Well

Breathing is good
Can work and play
No cough or wheeze
Sleeps all night

This is where you should be every day. Take these medicines daily:

Pulmicort Respules 0.5 mg 1 vial nebulized 1 time per day
Foradil Aerolizer 12 mcg 2 capsules 1 time per day
Symbicort 80/4.5 1 puff 2 times per day
Methylprednisolone 4 mg 2 tablet 2 times per day
5 minutes before exercise take Xopenex HFA 45 mcg 1 puff

Getting Worse

Some problems breathing
Problems working or playing
Cough, wheeze or chest tightness
Awakening at night due to asthma

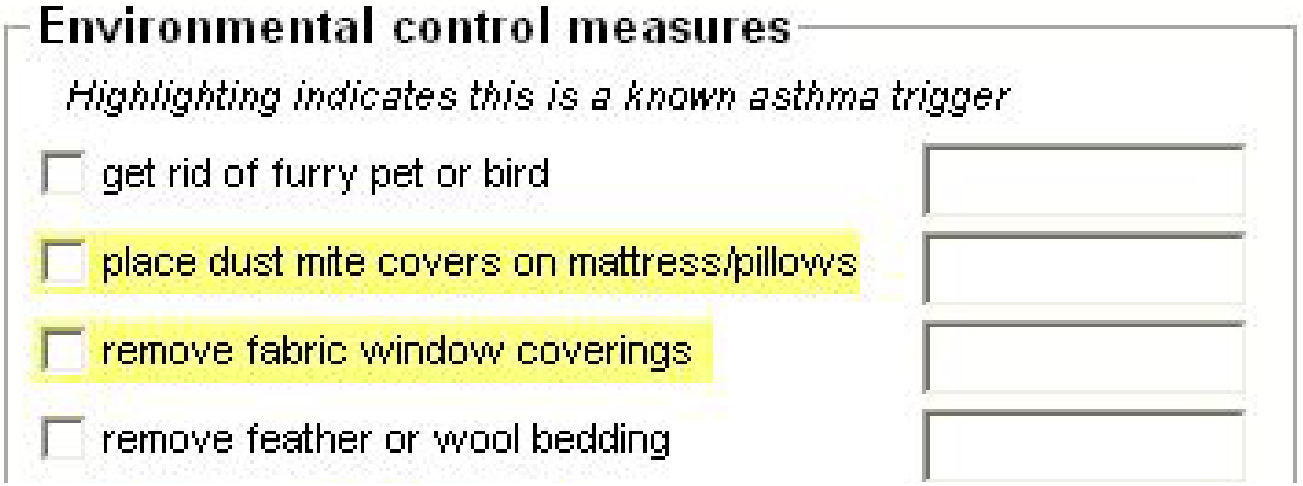
This is not where you should be every day. You need to take action to get your asthma under control.

Begin quick relief medicine in addition to daily medicines:
Albuterol 0.083% (3 mL) 3 vials nebulized 3 times per day
If you feel better in 20 minutes and relief lasts 4 hours then take:
Ventolin HFA 90 mcg 3 puffs 3 times a day for 2-3 days
If you don't feel better in 20 minutes take your quick relief medicine again.
If you still don't feel better after 2nd dose of quick relief, take another dose and call your doctor.
If you feel better, but relief doesn't last 4 hours start:
Proventil 90 mcg/metered inhalation 3 puffs 3 times a day for 2-3 days
Change daily medicine to:
Flovent HFA 110 mcg/inhalation 2 puffs 3 times per day

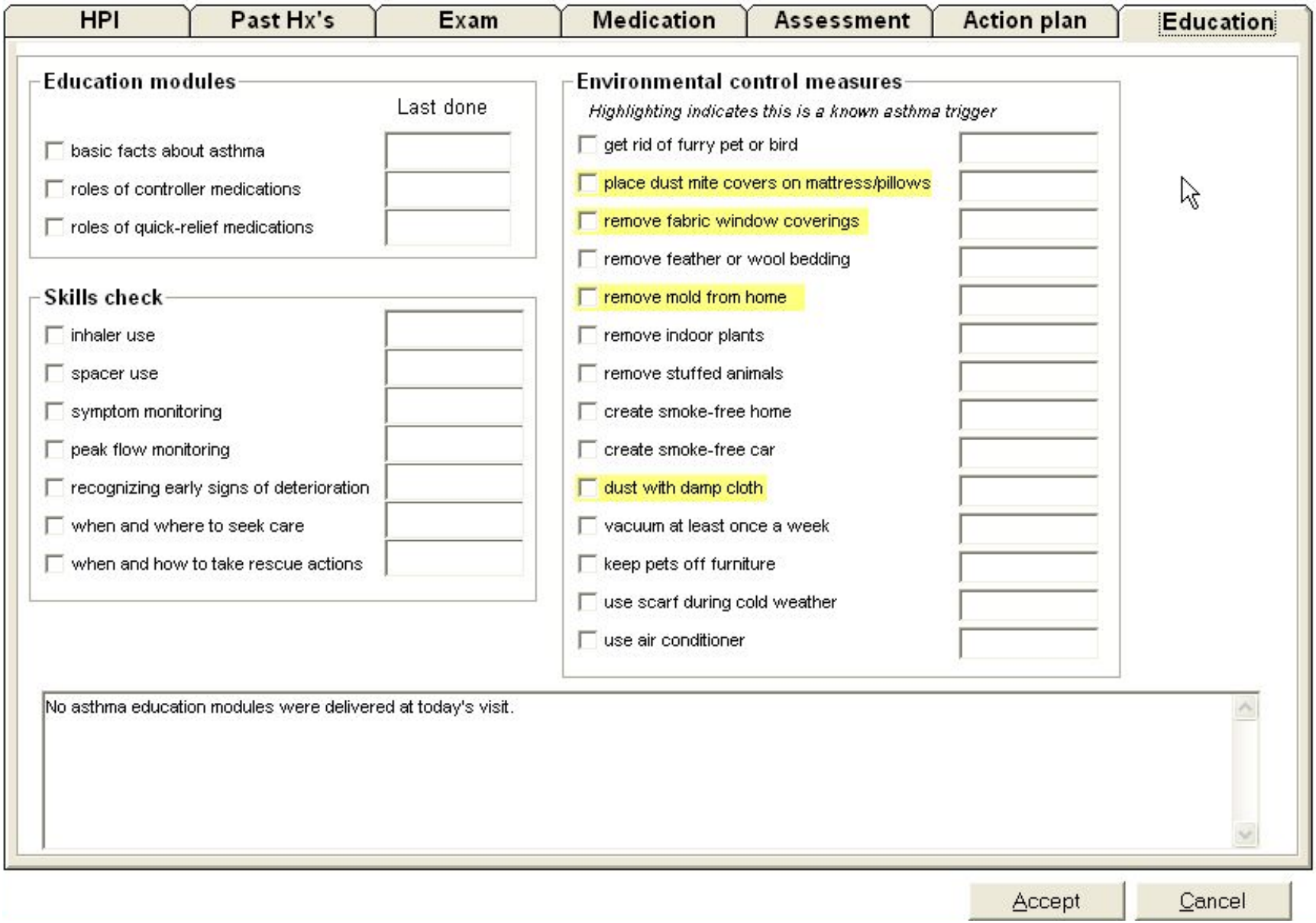
Additional yellow zone instructions can be place here. You can tell patient to call you or not take another dose or take three additional doses. Whatever you would like to say.

Education

- This section is used to document education provided at the visit.
- If the education is delivered, check the box next to item. The current date appears in the box to the right. The date field is patient level and appears in the box until the next time that item is discussed and checked in the SmartForm.
- Based on the patient's asthma triggers entered in the HPI tab, appropriate environmental control measures are highlighted.



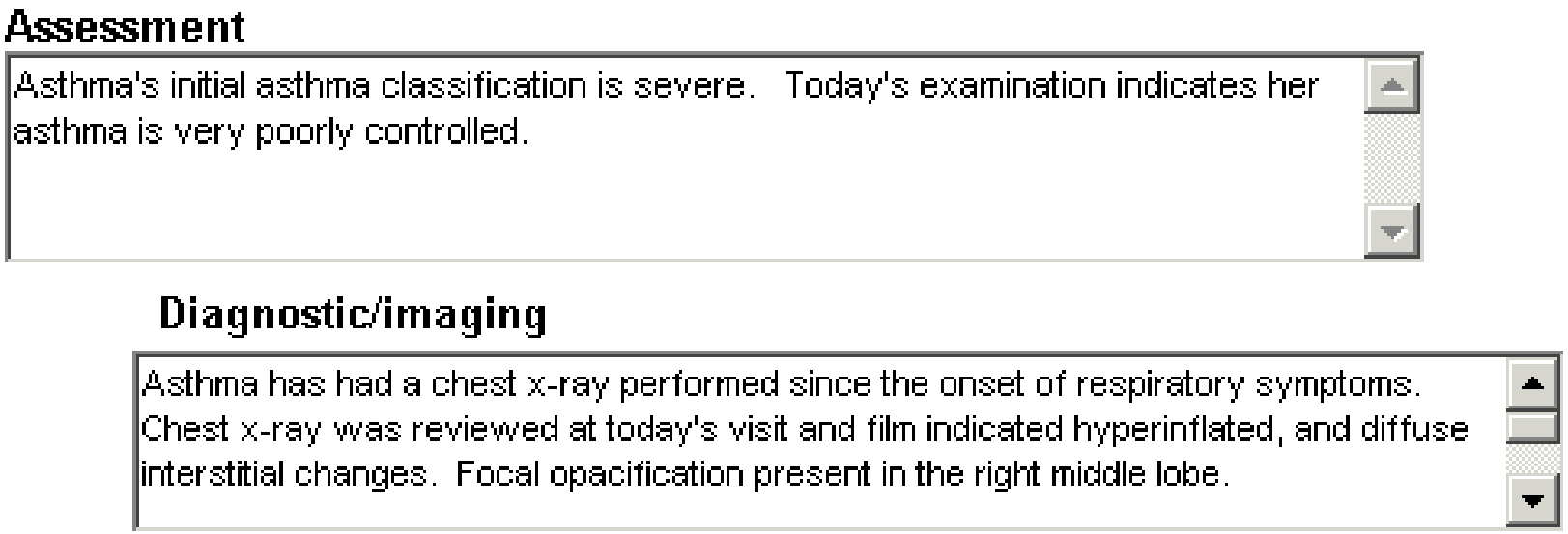
Education


HPI
Past Hx's
Exam
Medication
Assessment
Action plan
Education
Education modules
Last done
basic facts about asthma
roles of controller medications
roles of quick-relief medications
Skills check
inhaler use
spacer use
symptom monitoring
peak flow monitoring
recognizing early signs of deterioration
when and where to seek care
when and how to take rescue actions
Environmental control measures
Highlighting indicates this is a known asthma trigger
get rid of furry pet or bird
place dust mite covers on mattress/pillows
remove fabric window coverings
remove feather or wool bedding
remove mold from home
remove indoor plants
remove stuffed animals
create smoke-free home
create smoke-free car
dust with damp cloth
vacuum at least once a week
keep pets off furniture
use scarf during cold weather
use air conditioner
No asthma education modules were delivered at today's visit.
Accept
Cancel

Progress Note

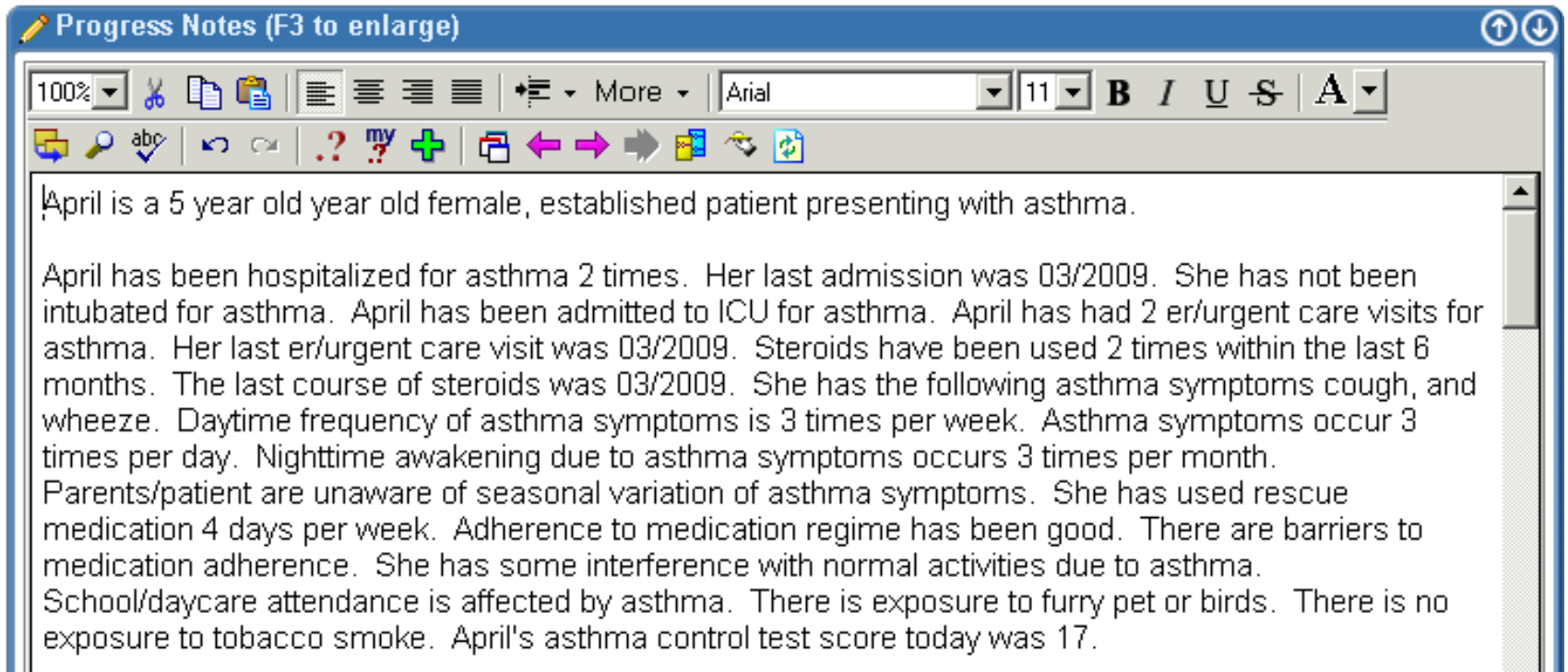
- Summary Notes are built as the provider completes the SmartForm and appear throughout the SmartForm
- These Summary Notes provide a preview of the text that appears in the Progress Note.

Examples:



Progress Note

- Open Progress Notes and click on the Insert SmartText icon. Type in the name of the SmartText (Asthma SmartForm), select and click accept.
- The SmartText builds the Progress Note based on entries in the SmartForm. The provider reviews the note and make any changes or additions if needed.



Need Assistance?

Contact	Email	Phone
David Milov, MD Chief of Clinical Informatics	dmilov@nemours.org	(407) 650-7070
Lynn Woods, ARNP NCC-O Pulmonology	lwoods@nemours.org	(407) 650-7350
Chara Chen, MBA, CAPM NCMP Project Manager	cchen@nemours.org	(407) 650-7453
Chris Pierson, RN NCMP Project Coordinator	cpierson@nemours.org	(407) 650-7364