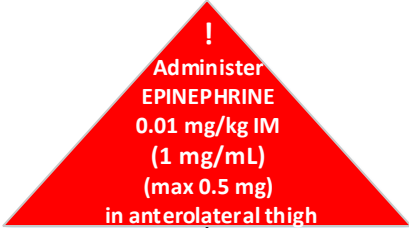
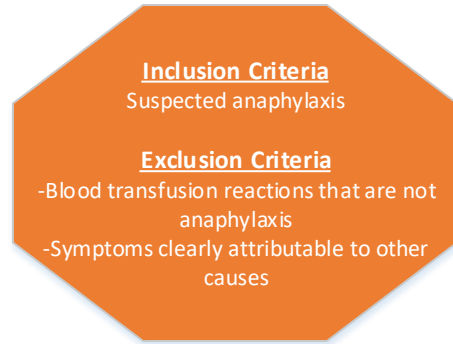
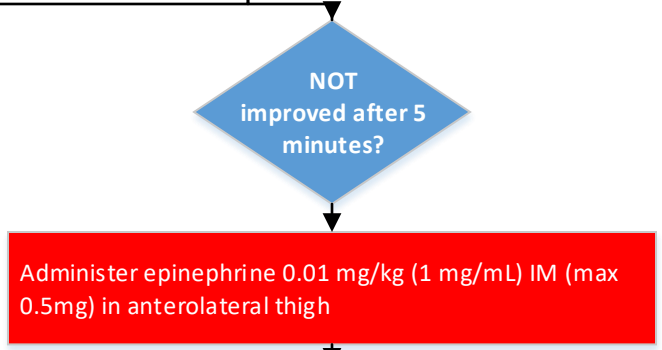
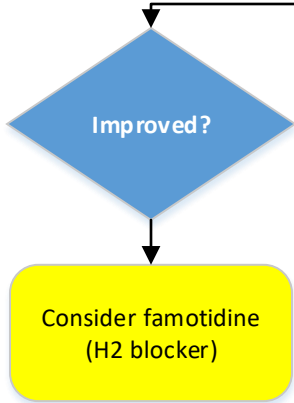


Anaphylaxis is suspected when ONE of the following 3 criteria are fulfilled following possible allergen exposure	
Criteria 1	Acute onset of symptoms with involvement of the skin, mucosal tissue, or both AND AT LEAST ONE OF THE FOLLOWING: <ul style="list-style-type: none"> Respiratory compromise Reduced BP or associated symptoms of end-organ dysfunction Persistent GI symptoms, significant abdominal pain and/or significant vomiting
Criteria 2	Two or more of the following that occur rapidly after exposure to a POSSIBLE ALLERGEN for that patient: <ul style="list-style-type: none"> Involvement of the skin-mucosal tissue Respiratory compromise Reduced BP or associated symptoms Persistent gastrointestinal symptoms
Criteria 3	Reduced BP after exposure to KNOWN ALLERGEN for that patient

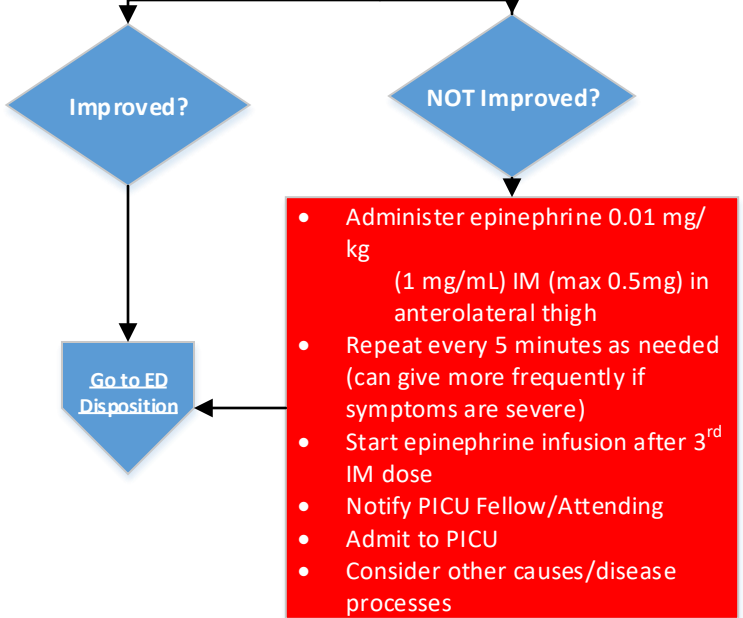


- Place on full cardiac monitor
- Monitor vital signs every 5 minutes
- Place patient supine if tolerated
- Avoid sudden changes in position, especially to standing
- Administer O2 to keep O2 saturation >90%
- If MAP < 5th percentile, place IV and administer 20ml/kg NS bolus and consider vasoactive infusion
MAP=40 + 1.5 (age in years); 5th %ile >13yo: use MAP >60
- If bronchospasm administer albuterol per medication table

- Labs to consider:**
- Glucose
 - BMP
 - Tryptase (must be drawn within 1 hour of anaphylaxis)



- Place IV (if not previously done)
- Diphenhydramine IV or PO (if able to tolerate)
- Famotidine IV
- Methylprednisolone IV
- Glucagon



- Reassess/Evaluate for risk factors:**
- History of biphasic or severe reaction
 - History of asthma or wheezing/current asthma exacerbation
 - Progression of/or persistent symptoms
 - Time from exposure to symptom onset delayed > 1 hour or unknown
 - Hypotension during ED stay
 - Upper airway obstruction/stridor
- If the patient is positive for one of the above risk factors, consider admission or longer observation**

Anaphylaxis – Emergency Department Disposition

Reassess/Evaluate for risk factors:

- History of biphasic or severe reaction
- History of asthma or wheezing/current asthma exacerbation
- Progression of/or persistent symptoms
- Time from exposure to symptom onset delayed > 1 hour or unknown
- Hypotension during ED stay
- Upper airway obstruction/stridor

If the patient is positive for one of the above risk factors, consider admission or longer observation

Did the patient receive epinephrine in ED?

NO

- Observe for at least 4 hours from last dose of epinephrine if symptoms are stable, or 2 hours after any symptom progression
- If anaphylaxis high risk history: observe for 4 hours from either exposure or any symptom progression.

YES

Observe in ED for 4 hours from the latest of:

- Epinephrine administration
- Any worsening symptoms
- Consider calling Allergy for patients who are followed by Allergy or if patient has identifiable risk factors (see yellow box)

PICU

INPATIENT

DISCHARGE

PICU Admit Criteria

- Need for epinephrine infusion
- Persistent MAP <5%ile
MAP = $40 + 1.5 (\text{age in years})$; 5th %ile >13yo: use MAP > 60
- Altered mental status after 1 epinephrine dose
- > 2 doses of epinephrine administered
- Persistent cardiovascular compromise

Inpatient Admit Criteria

- 2 total doses of epinephrine (home ± ED)
- Biphasic reaction during ED stay
- Physician concern

Admit for Observation

Discharge Criteria

- Complete clinical resolution of acute symptoms
- Teaching completed:
-allergic avoidance/discharge video
- Parental comfort with discharge with good access to ED if symptoms recur
- Tolerating PO

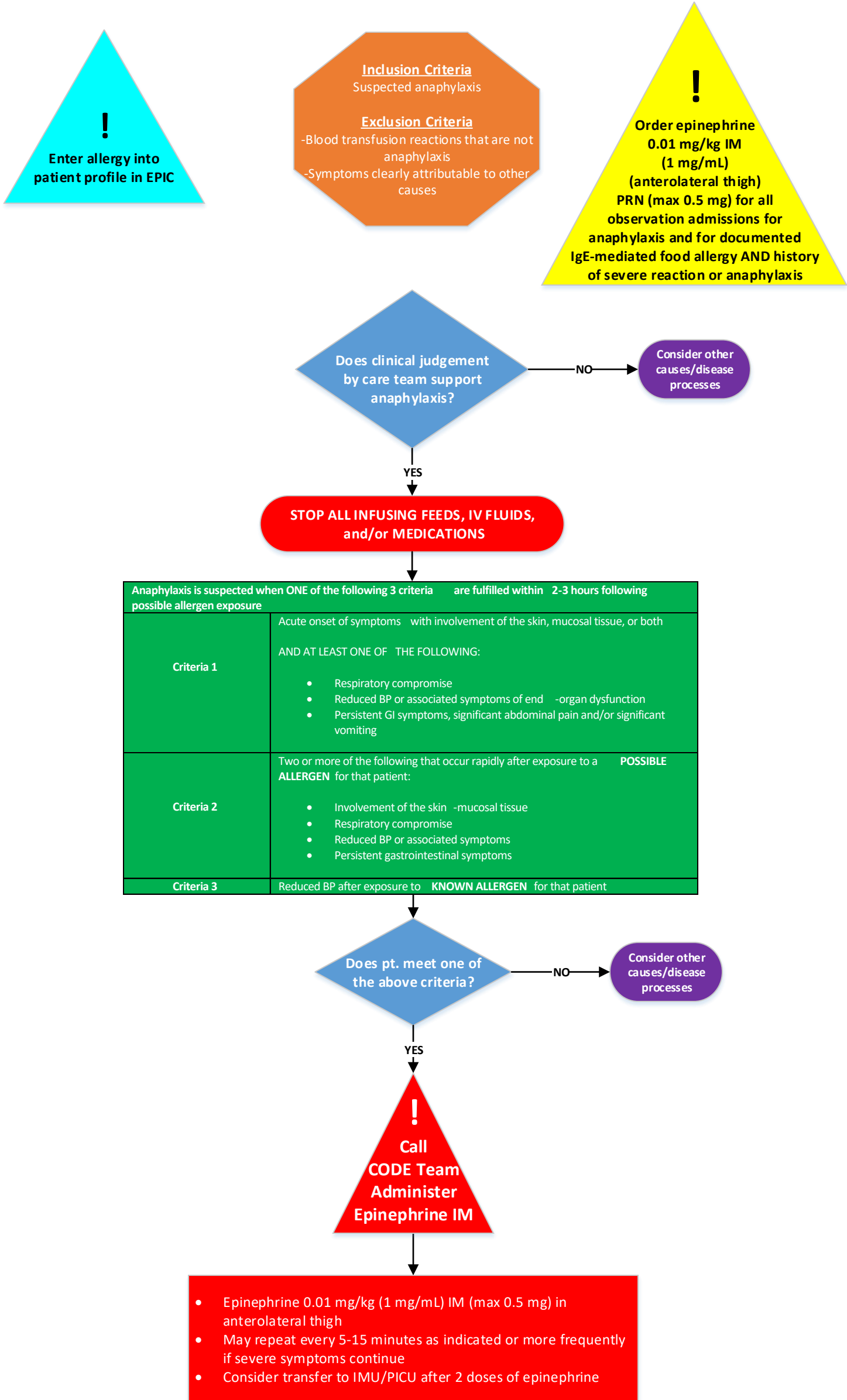
Discharge Instructions

- Provide anaphylaxis discharge materials
-Anaphylaxis Action Plan
- Discharge with prescription for:
-**Epinephrine** auto injector – Provide training
-Other medications as needed
- Consider Allergy referral within 1 month
- Follow up with PCP within 3 days



Enter allergy into patient profile in EPIC

Anaphylaxis – Inpatient Pathway



Anaphylaxis – Inpatient Ongoing Management Pathway

Reassess/Evaluate for risk factors:

- History of biphasic or severe reaction
- History of asthma or wheezing/current asthma exacerbation
- Progression of/or persistent symptoms
- Time from exposure to symptom onset delayed > 1 hour or unknown
- Hypotension during ED stay
- Upper airway obstruction/stridor

If the patient is positive for one of the above risk factors, consider admission or longer observation

Did the patient receive epinephrine on the floor?

YES

If patient received 1 dose of epinephrine, observe on floor for 4 hours from the latest of:

- Epinephrine administration
- Any worsening symptoms
- Consider calling Allergy for patients followed by Allergy or if patient has identifiable risk factors (see yellow box)

PICU

INPATIENT

DISCHARGE

PICU Transfer Criteria

- Need for epinephrine infusion
- Persistent MAP <5%ile
MAP= 40 + 1.5 (age in years); 5th %ile >13yo: use MAP > 60
- Altered mental status after 1 epinephrine dose
- > 2 doses of epinephrine administered
- Persistent cardiovascular compromise

Inpatient Criteria

- Continue to monitor
- Continue prior medical care

Discharge Criteria

- Complete clinical resolution of acute symptoms
- Teaching completed:
-allergic avoidance/Discharge video
- Parental comfort with discharge with good access to ED if symptoms recur
- Tolerating PO

Discharge Instructions

- Provide a naphylaxis discharge materials
-Anaphylaxis Action Plan
- Discharge with prescription for:
-**Epinephrine** auto injector – Provide training
-Other medications as needed
- Consider Allergy referral within 1 month
- Follow up with PCP within 3 days

! Enter allergy into patient profile in EPIC

MAP Table

Age (year)	MAP 5 th %tile
0	40
1	42
2	43
3	45
4	46
5	48
6	49
7	51
8	52
9	54
10	55
11	57
12	58
13	60
≥ 14	≥ 60

Medications

Highlighted medications = medication of choice

Epinephrine Dosing – Intramuscular (IM in anterolateral thigh) Administration	
Medication	Dose
Epinephrine IM (1 mg/mL)	0.01 mg/kg (max dose 0.5 mg)

Epinephrine is the PRIMARY treatment for Anaphylaxis!
All other medications are supportive. In the event of emergency, Epinephrine IM is available in the Emergency Drug Box.

Albuterol Weight-Based Dosing			
Kg	Unit Dose (0.5%)	MDI Puffs	Continuous
< 5 kg	1.25 mg	2	5 mg/hr
5-10 kg	2.5 mg	4	7.5 mg/hr
10-20 kg	2.5 mg	6	10 mg/hr
>20 kg	5 mg	8	15 mg/hr

Vasopressor	Starting Dose
Epinephrine	0.05 – 0.1 mcg/kg/min
Norepinephrine	0.05 – 0.1 mcg/kg/min

Glucose Elevating Agents	Dose	Comments
Glucagon < 20 kg	0.5 mg	May repeat in 15 minutes if no response
Glucagon ≥ 20 kg	1 mg	May repeat in 15 minutes if no response

Corticosteroids	Route	Mg/kg	Max Dose	Comments
Methylprednisolone	IV	2 mg/kg	60 mg	
Prednisolone	PO	2 mg/kg	60 mg	
Prednisone	PO	2 mg/kg	60 mg	
Dexamethasone	PO	0.3 mg/kg	8 mg	Prednisone/prednisolone alternative No second dose required

Antihistamines	Route	Dose
Diphenhydramine	IV/PO	1 mg/kg (max 50 mg)
Cetirizine	PO	6-23 months 2.5 mg/day 2-5 years 5 mg/day >6 years 10 mg/day
Famotidine	IV	0.25 mg/kg Q12 hours (max 40 mg)
Famotidine	PO	0.5 mg/kg/day up to 40 kg then 20-40 mg daily (max 40 mg)

Metrics

1. Increase the percent of patients receiving epinephrine PRN who present with anaphylaxis (if not administered at home) from __X__ to __Y__ by December 31, 2021.
2. Increase the percentage of patients discharged within 24 hours for the diagnosis of anaphylaxis from __X__ to __Y__ by December 31, 2021.
3. Decrease the amount of time from recognition of anaphylaxis to administration of epinephrine from __X__ to __Y__ by December 31, 2021.

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References

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