



CLINICAL GUIDELINES 2017

YUKON-KUSKOKWIM HEALTH CORPORATION

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Revised October, 2017

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Emergency Department Guidelines

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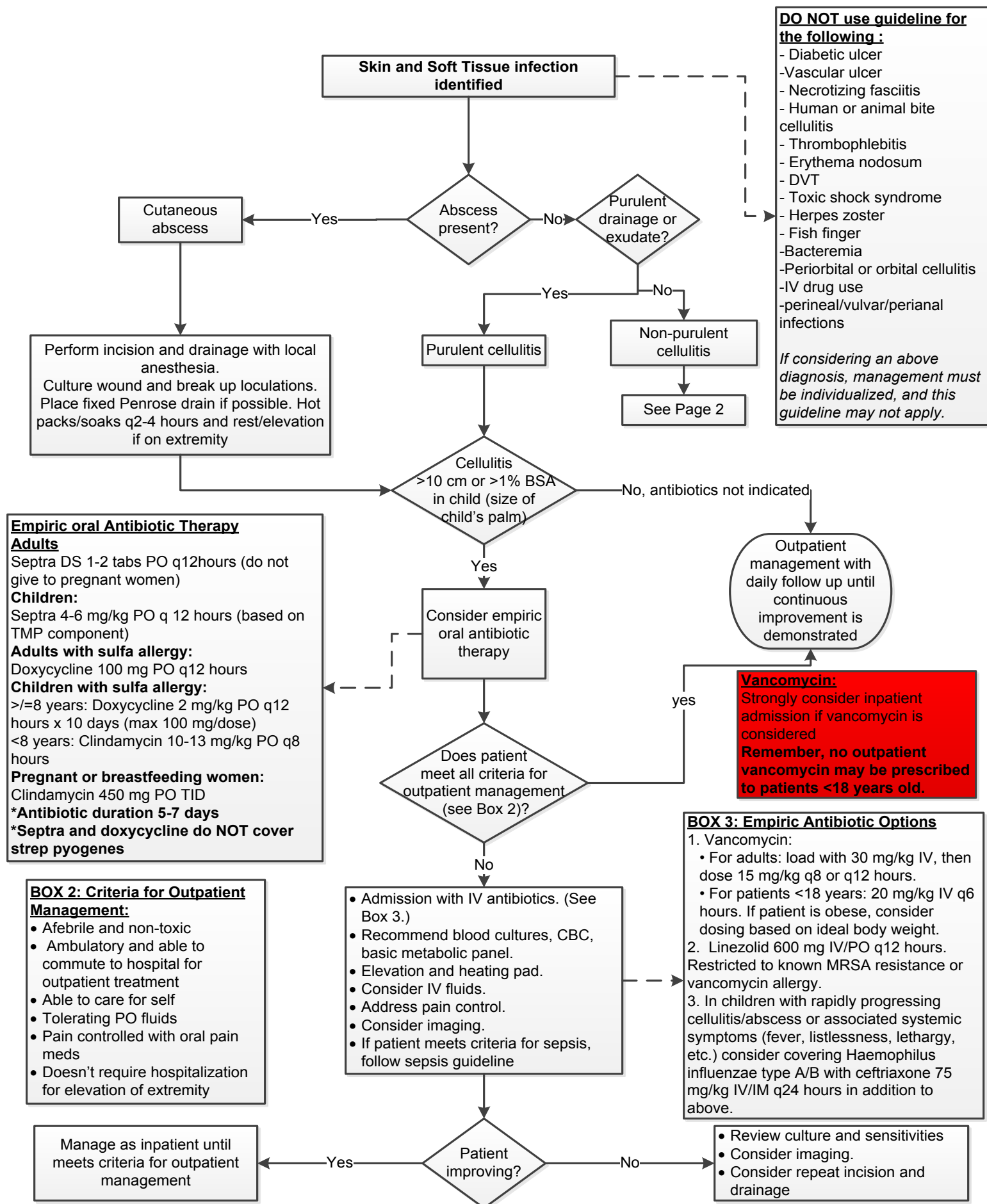
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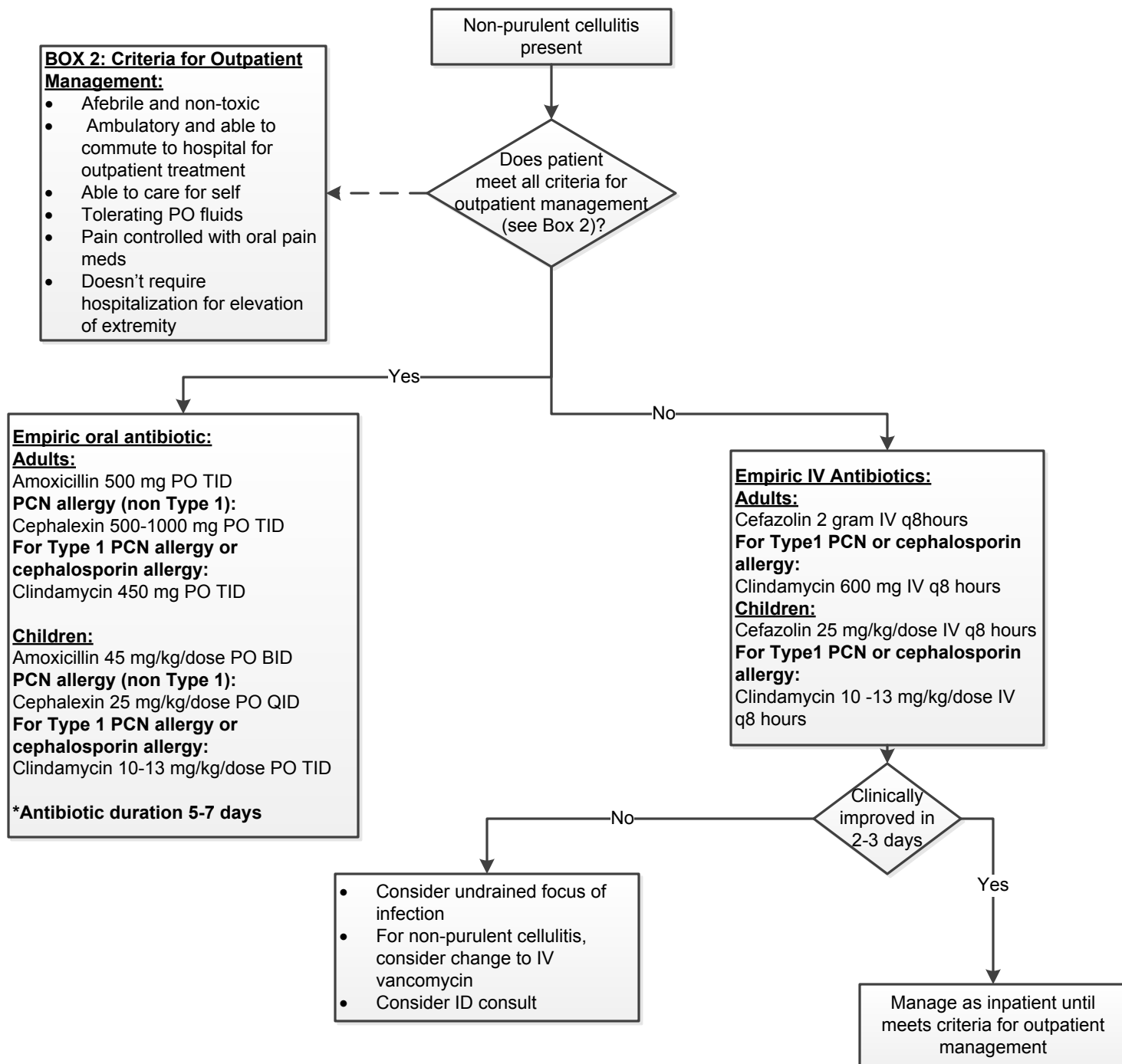
Skin and Soft Tissue Infection, p.1

MSEC approved 07-12-17



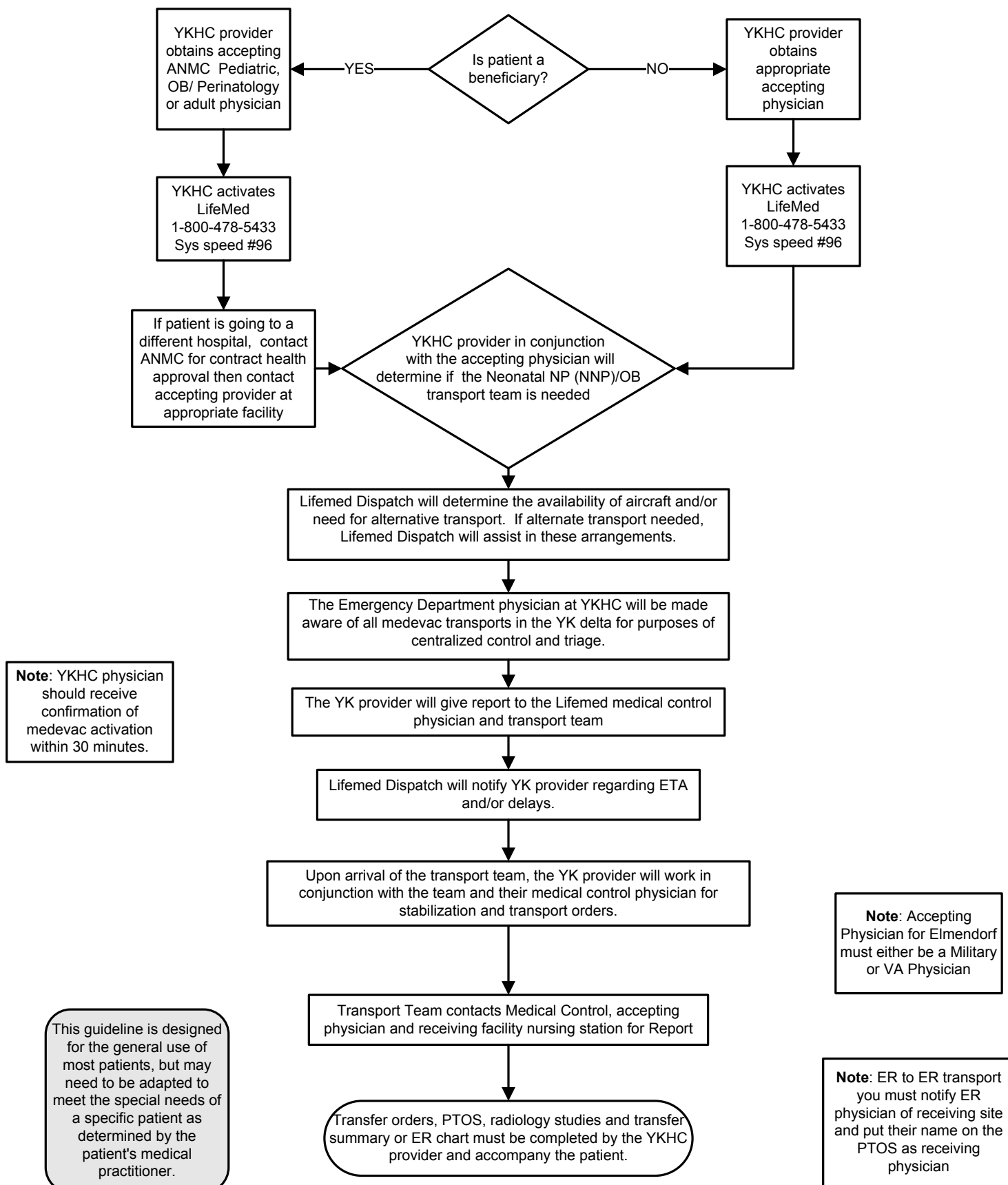
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MSEC approved 07-12-17



Medevac Activation—Bethel to Anchorage

MSEC approved 06/22/11



Medevac Activation – Village to Bethel

MSEC approved 06/22/11

Village to Bethel Collaboration

Village Health Aide collaborates with provider (RMT provider, Night Float provider, or ER Physician) to make decision if medevac is indicated

Activation of Medevac

Activating provider calls LifeMed Dispatch with patient's name, DOB, village, and diagnosis

LifeMed Dispatch 1-800-478-5433

Transfer Care to ER Physician

Activating provider completes PTO and takes PTO and provider notes to ER Physician who assumes care.

Bethel-Village Collaboration

ER Physician calls village Health Aide to get updates and continues to keep records on the RMT Form for Village to Bethel Medevacs

LifeMed Dispatch

1. LifeMed Dispatch notifies Grant Aviation/Pilot/LifeMed
If LifeMed cannot launch (weather, runway lights) dispatch notifies ER Physician. Pilot will continue to check weather.
2. ER clerk faxes PTO, health summary, notes to Bethel LifeMed crew quarters
3. LifeMed crew contacts Village Health Aide and ER Physician for additional information prior to flying
4. If there is a prolonged delay (weather) it is crucial that LifeMed crew contacts the ER Physician and Health Aide prior to flying
5. In extenuating circumstances patient may need direct transport to Anchorage from village. After obtaining an accepting physician in Anchorage, YK MD will work with LifeMed for transport logistics.

LifeMed launches

1. Once in village LifeMed calls ER physician to report, establish treatment plan and gives Estimated Time of Arrival (ETA) to Bethel to ER Physician
2. ER Physician keeps Charge Nurse informed of patient status/ETA of Medevac

Arrival in Bethel

1. Patient care is transferred to ER staff and LifeMed gives report to YK MD and nursing staff
2. Completed transport chart placed in patient's ER chart prior to departure of LifeMed staff*

NOTE: In the event of multiple medevacs, the ER Physician in collaboration with LifeMed must make decision regarding priority

In the event that a medevac is cancelled (patient deemed stable to come in on scheduled flight) LifeMed dispatch must be notified by the ER Physician immediately.

Consider Ramp Transfer Direct to Anchorage under these circumstances:

1. Obvious need for acute surgical intervention
2. Hemodynamically stable intubated patients
3. Hemodynamically stable acute MI patients
4. Other extenuating circumstances.

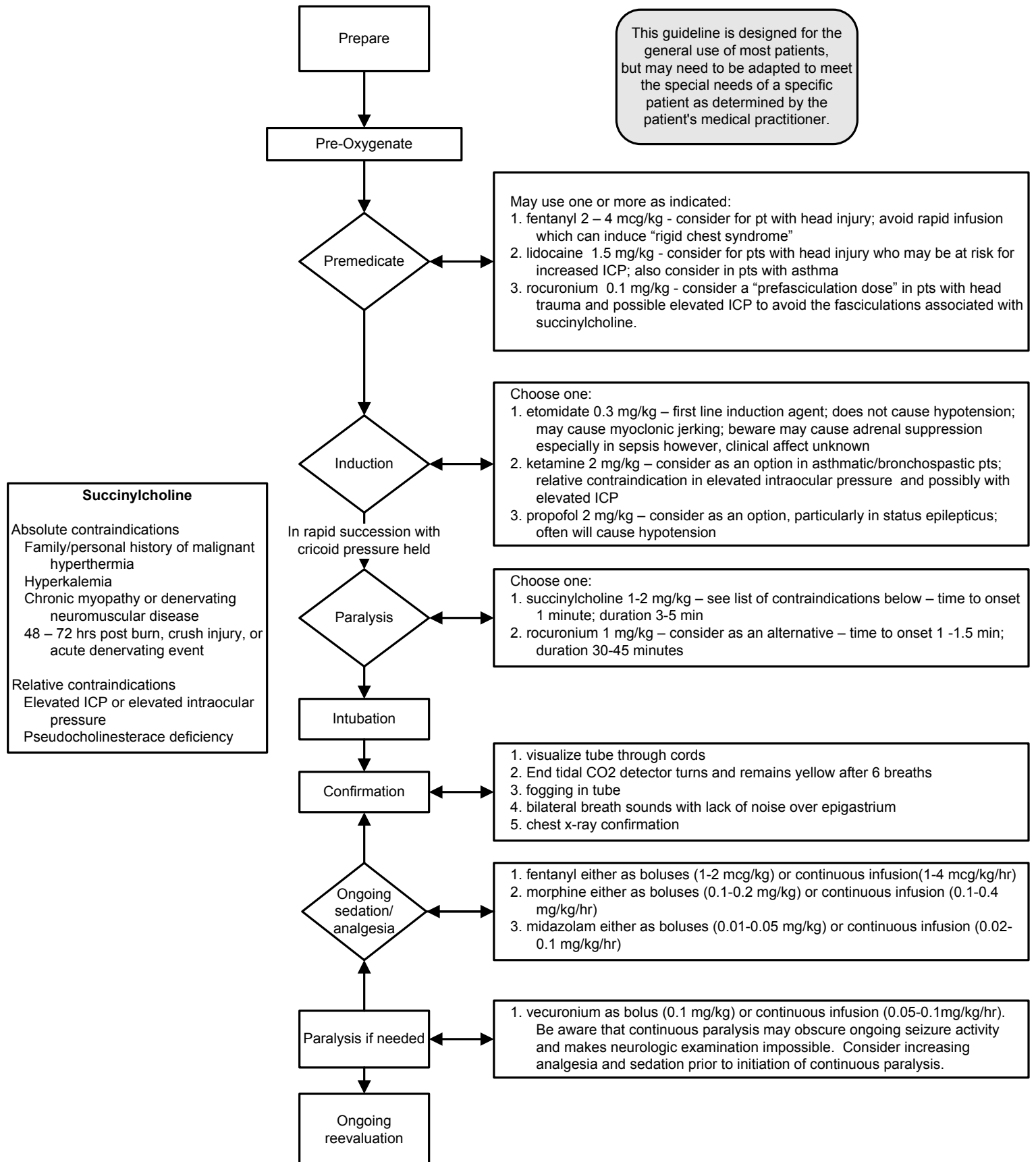
Centralized medical control is **critical**. If for any reason, the ER Physician requests an activating provider maintain control, the ER Physician must be kept up to date on patient and medevac status

*Under extenuating circumstances, the LifeMed team may be unable to complete the transport chart prior to departure from ED

This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner.

Intubation – Adult

MSEC approved 06/22/11



Sepsis – Adult

MSEC approved 7/12/17

qSOFA – 2 or more of the following:
 RR > 22
 altered mental status (GCS<15)
 SBP < 100

Consider sepsis **EARLY** in *any* pt with suspected infection

Does pt meet criteria for sepsis or septic shock?

Reassess after initial evaluation -- consider
 fever, leukocytosis, hypotension?
 unexplained altered mental status?
 tachypnea? especially if lungs CTA and SaO₂ WNL?
 unexplained organ dysfunction?
 clinical concern during ongoing care?

Airway stable?

ET intubation
 target tidal volume 6 mL/kg
 for pts without ARDS

SEPSIS 3 & ACEP NOTES

4-6L of total IVF is often needed during the first 6 hrs, after 2L of NS consider switch to LR, remember that if the patient fails to respond after the first 2-3 L, pressors should be considered.

In pts with concern for fluid overload (hx CHF, renal or liver failure) or complications from fluid resuscitation, use less total fluid or smaller boluses with more frequent reassessment of volume status, but **DO NOT DELAY FLUID AND VASOPRESSOR TREATMENT**

Persistence of elevated lactate, even in the absence of hypotension, is associated with poor outcomes

CRP and procalcitonin may be elevated but can not effectively guide ED sepsis care — **CHECK (and RECHECK) LACTATE**

in the absence of extenuating circumstances (MI, severe hypoxia, acute blood loss, etc) transfusion is no longer recommended unless Hgb < 7

Consider insulin if 2 consecutive blood glucose levels are > 180

Sodium bicarbonate is not recommended to improve hemodynamics or decrease vasopressor requirements in pts with hypoperfusion induced lactic acidemia with pH ≥ 7.15

Large bore IV x 2
LABS INCLUDING LACTATE, PCT & BLOOD CULTURES
START FLUID RESUSCITATION immediately: Give 1 L NS or LR bolus with target at least 30 ml/kg within 1-3 hr

START EMPIRIC ABX (see guidelines) within 1 hr of recognition of sepsis/septic shock

Village Management

- Aggressive hydration, PO if you can't get an IV and the patient is alert enough to drink
- Supplemental oxygen via nasal cannula
- Consider Ceftriaxone 2 grams IM
- Activate medevac
- Consider VTC

REASSESS FREQUENTLY
 Assess for adequacy of fluid resuscitation or complications from fluid therapy
 Monitor vital signs, UOP, shock index (HR/SBP > 0.7), mental status and clinical exam
 Use more than one method to assess resuscitation adequacy and use dynamic variables if possible

CONSIDER CONSULT/TRANSFER if unstable or not improving and **ACTIVATE MEDEVAC EARLY** if needed

Is MAP < 65 after 3L of IVF or is patient having complications from volume therapy?

START NOREPINEPHRINE or other vasopressor (see guidelines) and **TITRATE** fluids and pressors to **MAP >65**

Place a central line ASAP but do NOT delay pressors — a well secured large bore peripheral IV may be used to initiate tx

Consider intubation to facilitate appropriate volume resuscitation

Consider hydrocortisone (see guidelines) *only* for septic shock not responsive to adequate fluid resuscitation and vasopressors

If initial lactate is > 2:
RECHECK LACTATE 1-2 hrs after starting resuscitation
GUIDE RESUSCITATION TO NORMALIZE LACTATE
 Primary goal should be to achieve a relative lactate clearance of at least 10% in 1-2 hours
 Lactate > 4 may indicate hypoperfusion and the need for aggressive/continued fluid resuscitation

GET SOURCE CONTROL and obtain additional cultures PRN

Continue to reassess frequently while awaiting admission or transfer

Sepsis – Adult Medications p. 1

MSEC approved 07/12/17

EMPIRIC ANTIBIOTIC RECOMMENDATIONS BY SOURCE OF INFECTION

Source of infection	Medication	Dose	Maximum Dose
<i>*If possible, 1st dose of antibiotics should be administered as a 30 min infusion to reduce time to therapeutic concentration*</i>			
unknown	vancomycin ¹	25-30 mg/kg loading dose THEN 20mg/kg Q8-12 hrs	2 grams
	OR		
	linezolid	600 mg IV Q12 hrs	600 mg
	AND		
	piperacillin-tazobactam ²	4.5 grams IV Q8 hrs	4.5 grams
	OR		
	cefepime	2 grams IV Q8 hrs if in shock	2 grams
	AND		
	gentamicin or tobramycin ³	7 mg/kg IV Q24 hrs	Consult pharm
	OR		
	levofloxacin	750 mg IV Q24 hrs	750 mg
community acquired pneumonia	ceftriaxone	1 gram IV Q24 hrs (2 gm if > 80 kg)	2 grams
	OR		
	ampicillin-sulbactam	3 gm Q6 hrs	
	AND		
	levofloxacin	750 mg IV Q24 hrs	750 mg
	OR		
	azithromycin	500 mg PO/IV Q24 hrs	500 mg
	<i>if at risk for aspiration CONSIDER</i>		
	Metronidazole	500 mg IV Q8hrs	depends
hospital acquired pneumonia OR high risk for MDR organisms	vancomycin ¹	25-30 mg/kg loading dose THEN 20mg/kg Q8-12 hrs	2 grams
	OR		
	linezolid	600 mg IV Q12 hrs	600 mg
	AND		
	piperacillin-tazobactam ²	4.5 grams IV Q6 hrs	4.5 grams
	OR		
	cefepime	2 grams IV Q8 hrs	2 grams
	AND		
	levofloxacin	750 mg IV Q24 hrs	750 mg
	OR		
	gentamicin or tobramycin ³	7 mg/kg IV Q24 hrs	Consult pharm
meningitis	dexamethasone	10 mg IV PRIOR TO ABX	
	AND		
	vancomycin ¹	25-30 mg/kg loading dose THEN 20mg/kg Q8-12 hrs	2 grams
	AND		
	ceftriaxone	2 grams IV Q12 hrs	2 grams
	<i>if > 50 y/o ADD</i>		
	ampicillin	2 grams IV Q6 hrs	2 grams

Sepsis – Adult Medications p. 2

MSEC approved 07/12/17

urinary tract	ceftriaxone	1 gm IV Q24 hrs (2 gm if > 80 kg)	2 grams
	AND consider		
	gentamicin	7 mg/kg IV Q24 hrs	Consult pharm
	OR		
	levofloxacin	750 mg IV Q24 hrs	750 mg
	if urological interventions or MDR risk factors CONSIDER		
	piperacillin-tazobactam ²	3.375 grams IV Q6 hrs	4.5 grams
	OR		
	cefepime	1 gram IV Q6 hrs	2 grams
	If ESBL add		
Meropenem	500 mg IV q8hrs	1 gram	
Intra-abdominal/pelvic	piperacillin-tazobactam ²	3.375 grams IV Q6 hrs	4.5 grams
	OR		
	cefepime	1 gram IV Q6 hrs	2 grams
	AND		
	metronidazole	500 mg IV Q6 hrs	500 mg
	OR		
	ciprofloxacin	400 mg IV Q12 hrs	400 mg
	AND		
	metronidazole	500 mg IV Q8 hrs	500 mg
	skin and soft tissue/necrotizing infections	if PURULENT	
vancomycin ¹		25-30 mg/kg loading dose THEN 20mg/kg Q8-12 hrs	2 grams
if NONPURULENT			
cefazolin		2 grams IV Q8 hrs	2 grams
OR			
ceftriaxone		1-2 grams IV Q24 hrs	2 grams
OR			
ampicillin-sulbactam		3 grams Q6 hrs	3 grams
if NECROTIZING ADD			
piperacillin-tazobactam ²		3.375 grams IV Q6 hrs	4.5 grams
AND			
clindamycin		900 mg IV Q8 hrs	900 mg
OR			
ceftriaxone		2 grams IV Q12 hrs	2 grams
AND			
metronidazole		500 mg IV Q6 hrs	500 mg
neutropenic cancer patients (ANC < 500)	piperacillin-tazobactam ²	4.5 grams IV Q6-8 hrs	4.5 grams
	OR		
	cefepime	1 gram IV Q6 hrs	2 grams
	AND		
	vancomycin ¹	25-30 mg/kg loading dose THEN 20mg/kg Q8-12 hrs	2 grams
	is suspected/confirmed HSV or VZV CONSIDER		
	acyclovir	10 mg/kg Q8 hrs	Consult pharm

Sepsis – Adult Medications p. 3

MSEC approved 07/12/17

- ¹ linezolid may be substituted for vancomycin in patients with relative contraindication to vancomycin use or high risk for AKI
² gentamicin and tobramycin dosing based on ideal body weight
³ may substitute ampicillin-sulbactam 3 gm IV Q6 hrs for piperacillin-tazobactam when pseudomonas is not of concern

VASOPRESSORS

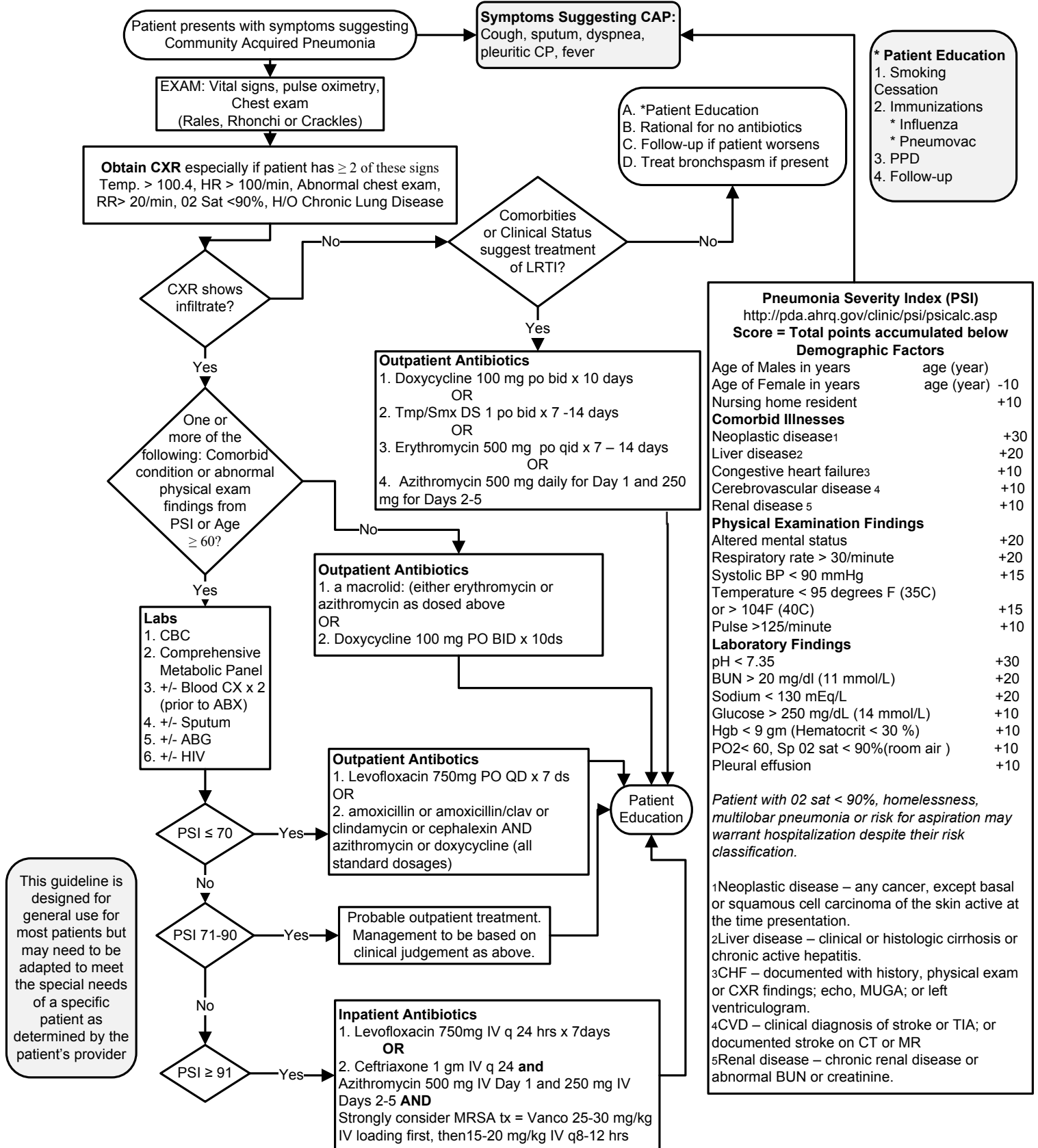
medication	dose	notes
<i>*ALL vasoactive medications should be infused via central line with the exception of dopamine, which can be infused via a peripheral IV at rates less than 10 mcg/kg/min*</i>		
norepinephrine	8-12 mcg/min IV initial infusion rate	1 st line vasopressor of choice in sepsis
epinephrine	1-10 mcg/min initially, titrated to effect	may be added to or used in place of norepinephrine to maintain adequate BP
dopamine	2-20 mcg/kg/min	2 nd line option in highly select patients as it causes more tachycardia
phenylephrine	100-180 mcg/min IV initial infusion until stabilized, titrate to goal of 60-200 mcg/min (max dose range 80-360 mcg/min)	can be used as salvage therapy for refractory hypotension associated with tachycardia
vasopressin	0.03-0.04 units/min	may be added to norepinephrine to increase MAP or decrease norepinephrine dose – DO NOT use as a single agent
dobutamine	2-20 mcg/kg/min IV infusion	may be used for inotropic support in the presence of severe myocardial dysfunction or hypoperfusion with depressed cardiac output

CORTICOSTEROIDS

Corticosteroids should NOT be administered for the treatment of sepsis in the absence of shock. Steroids are beneficial in those experiencing adrenal insufficiency in the presence of septic shock, however ACTH testing is not routinely recommended in adult patients. If hemodynamic stability is not achieved after adequate fluid resuscitation and vasopressor therapy, the use of IV hydrocortisone alone at a dose of 200 mg/day can be considered regardless of AI status. Hydrocortisone should be tapered when vasopressors are no longer required.

Pneumonia – Adult

MSEC approved 06/22/11

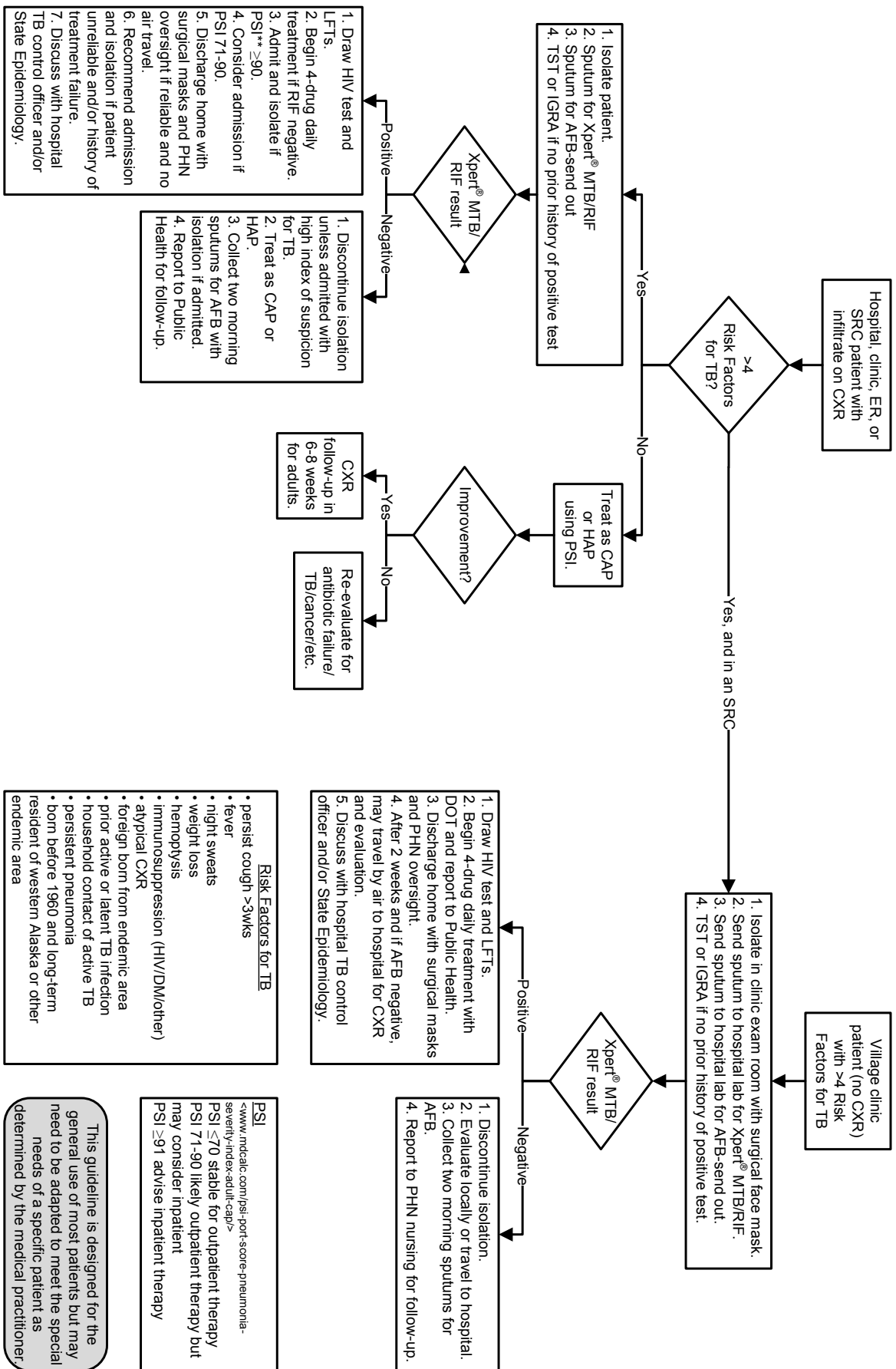


Suspect Aspiration: clindamycin 600-900mg IV Q8hrs + ceftriaxone 1gm IV Q24hrs **OR** ampicillin-sulbactam 3gm IV Q6hrs **OR** piperacillin-tazobactam 3.375 gm IV Q6hrs

Suspect Pseudomonas: Piperacillin/Tazobactam (Zosyn) 4.5 gm IV q 6hrs **AND** Levofloxacin 750 mg IV **OR** Zosyn 4.5 gm IV q6hrs + gentamicin 7mg/kg IV q24hrs + (levofloxacin 750mg IV or Zithro IV)

Active Pulmonary TB for Patients ≥14 Years

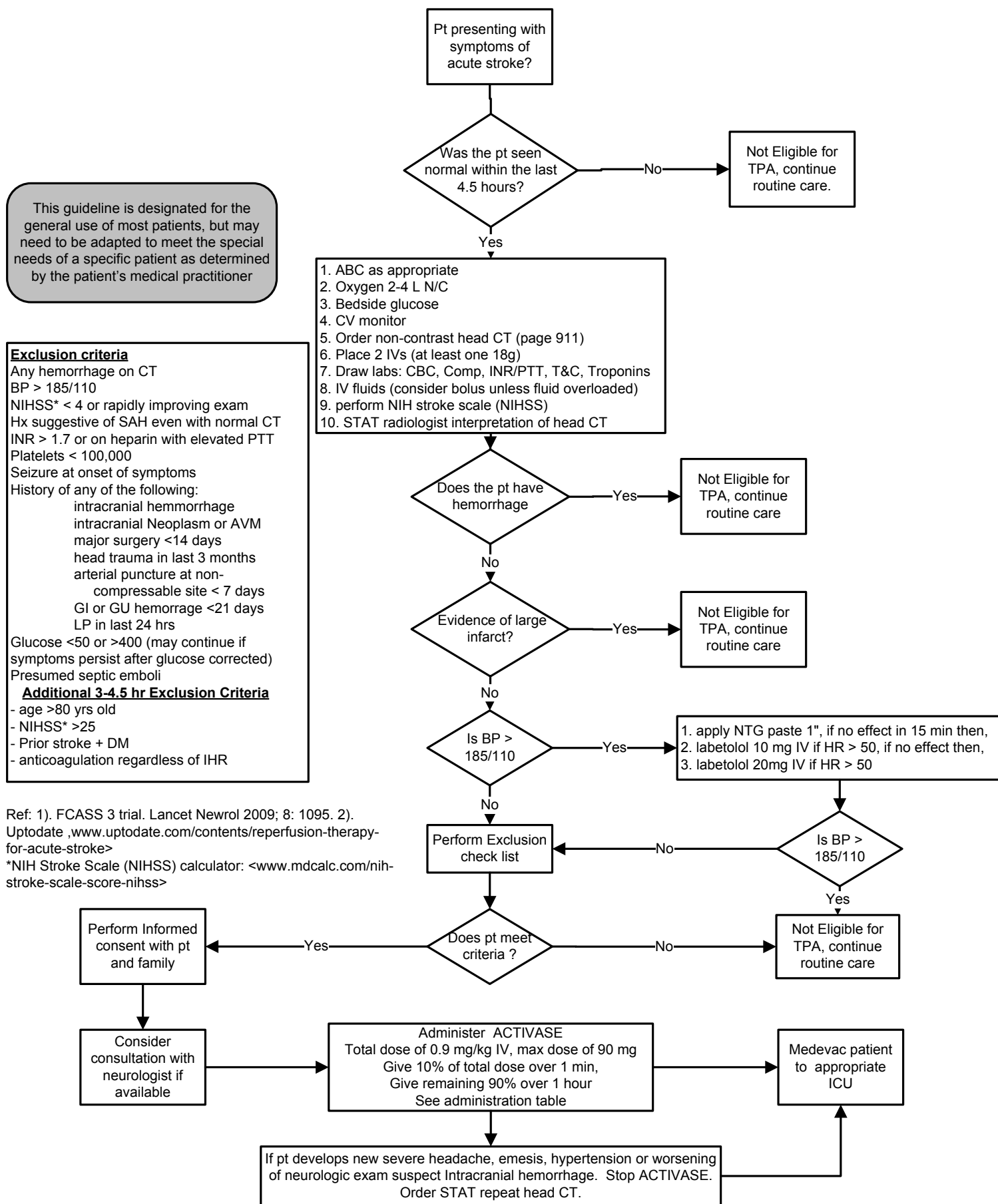
MSEC approved 04-13-16



Abbreviations: AFB-acid fast bacilli; CA-cancer; CAP-community acquired pneumonia; CXR-chest x-ray; DM-diabetes mellitus; DOT-directed observational therapy; ER-emergency room; LFTs-liver function tests; HAP-healthcare associated pneumonia; HIV-human immunodeficiency virus; IGRA-interferon gamma release assay; PHN-public health nurse; PSI-pneumonia severity index; SRC-subregional clinic; RIF- rifampin resistance; TB-tuberculosis; TST-tuberculin skin test

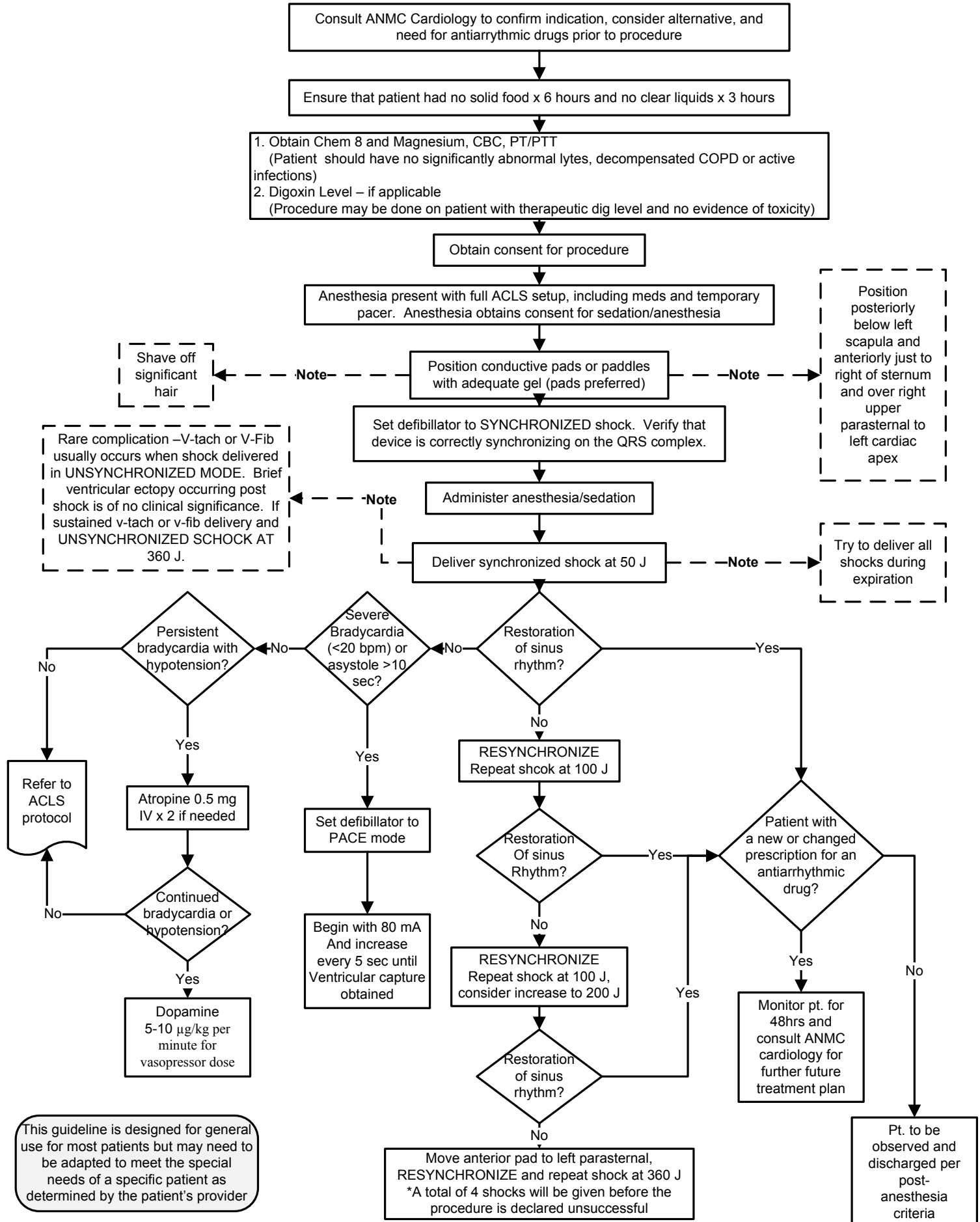
Ischemic Stroke – Acute

MSEC approved 06/22/11



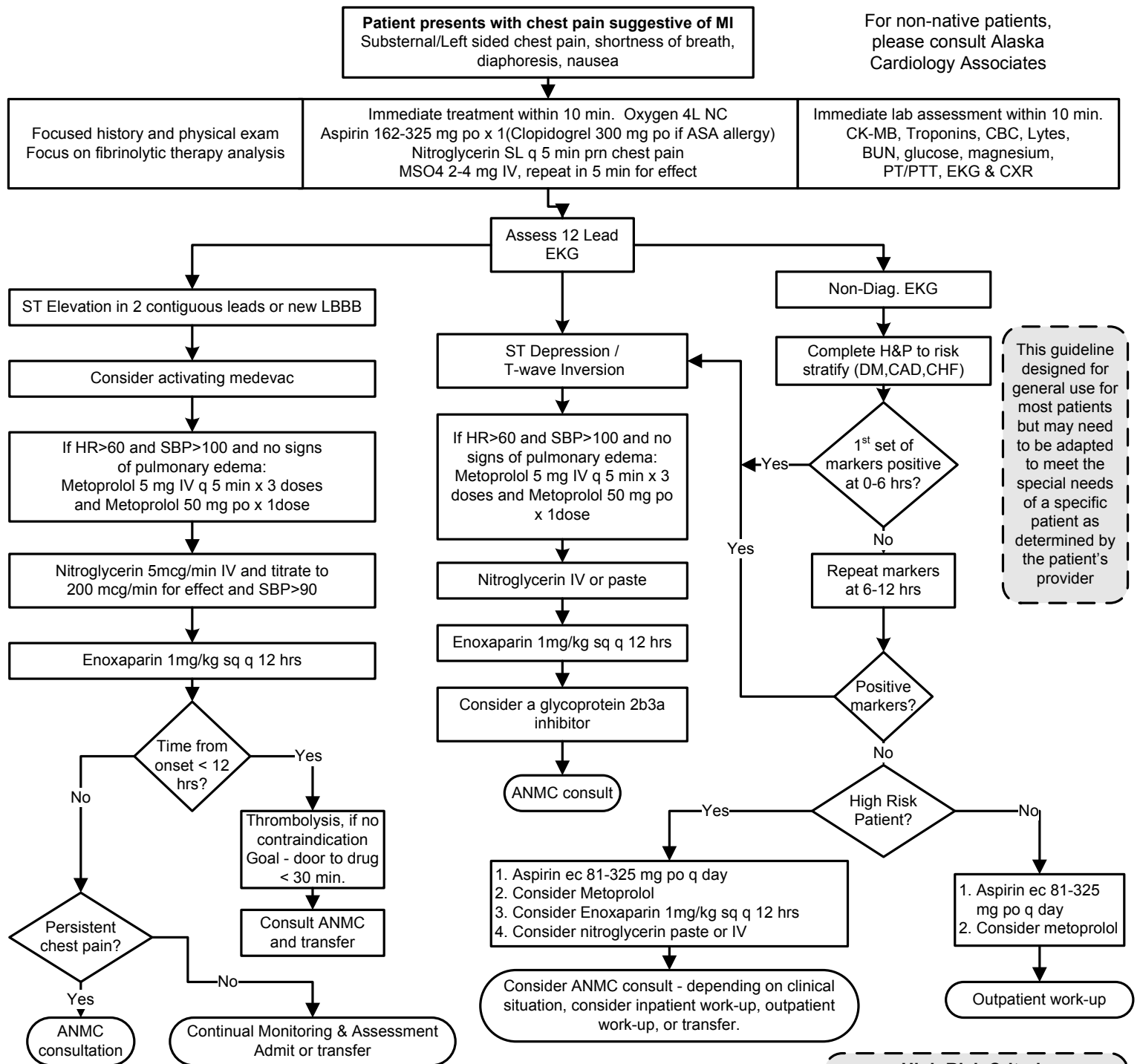
Atrial Fibrillation / Atrial Flutter

MSEC approved 06/22/11



Myocardial Infarction – Acute

MSEC approved 06/22/11



Fibrinolytic Therapy Recommendations

Indications

Chest pain suggesting MI, ST - segment elevation >0.1 mV (1mm) in 2 or more contiguous ECG leads or new LBBB, time to therapy < 12 hours, age < 75 years (age > 75 years Class Iia), evidence of ongoing ischemia

Absolute contraindications

H/O CVA; intracranial or intraspinal surgery/trauma w/in 3 wks; intracranial neoplasm, AVM, or aneurysm; active internal bleeding (menses excluded) w/in 2-4 wks; known bleeding diathesis; severe uncontrolled HTN (>180/110); terminal illness

Cautions

Recent major surgery: cerebrovascular dz; recent GI bleeding, recent trauma; high likelihood of left heart thrombus; acute pericarditis; subacute bacterial endocarditis; renal or hepatic dysfunction; pregnancy; diabetic hemorrhagic retinopathy; septic thrombophlebitis; occluded AV cannula; advanced age > 75; currently on oral anticoagulants (Coumadin); recent gp 2b/3a inhibitor; platelet <100,000, conditions where bleeding would be difficult to manage

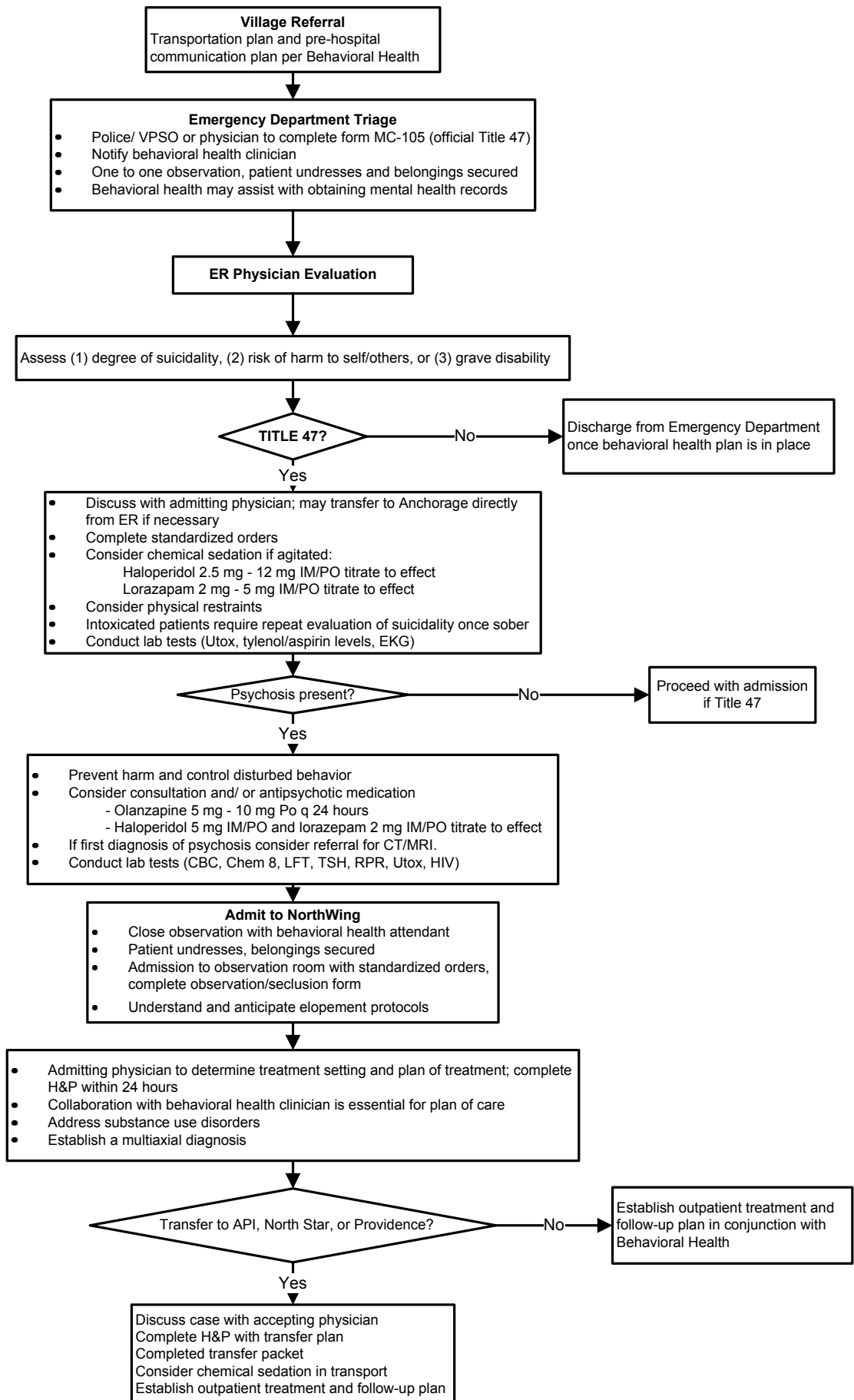
High Risk Criteria

- Hypotension
- Persistent CP suggestive of MI
- 2 or more episodes of rest angina in previous 24 hours
- History of 3 or more cardiac risk factors
- History of Diabetes Mellitus
- Known CAD
- Age 65 years or greater
- Congestive heart failure
- New ST deviation > 0.5mm
- New pathological Q waves
- Sustained ventricular tachycardia
- Elevated cardiac makers

Title 47 Hold

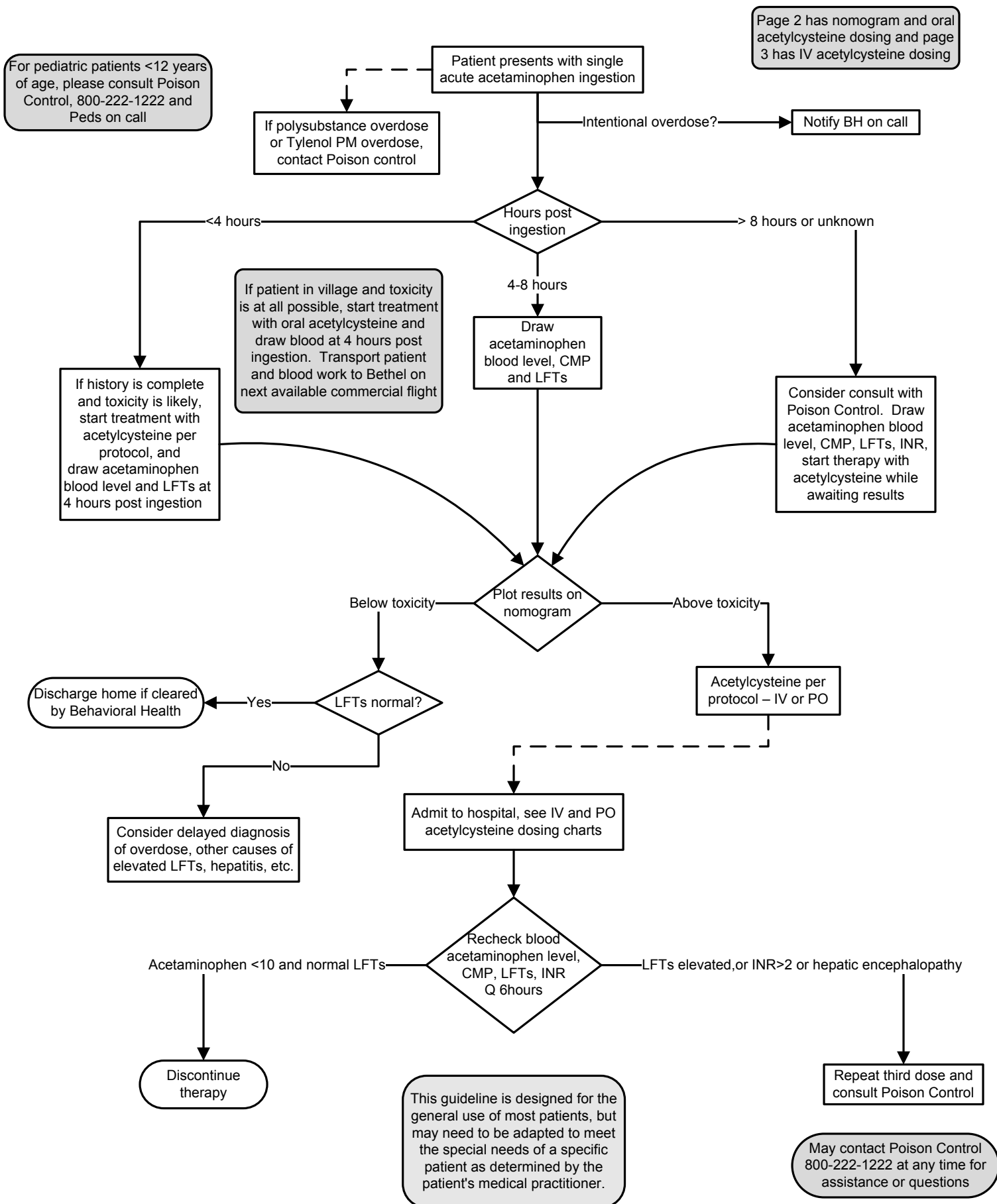
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This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner.



Acetaminophen Overdose, p.1

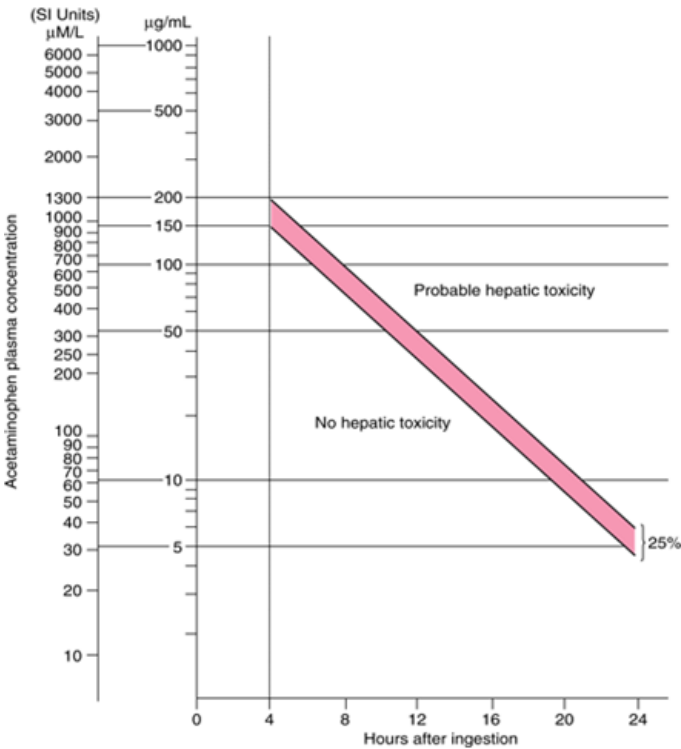
MSEC approved 06/22/11



Acetaminophen Overdose p.2

MSEC approved 06/22/11

Rumack-Matthew nomogram for single acute acetaminophen poisoning



Loading dose for oral acetylcysteine

Body Weight		grams Acetylcysteine	mL of 20% Acetylcysteine Solution	mL of Diluent	Total mL of 5% Solution
(kg)	(lb)				
100-109	220-240	15	75	225	300
90- 99	198-218	14	70	210	280
80- 89	176-196	13	65	195	260
70- 79	154-174	11	55	165	220
60- 69	132-152	10	50	150	200
50- 59	110-130	8	40	120	160
40- 49	88-108	7	35	105	140
30- 39	66- 86	6	30	90	120
20- 29	44- 64	4	20	60	80

Maintenance dose for oral acetylcysteine

Maintenance Dose*					
(kg)	(lb)				
100-109	220-240	7.5	37	113	150
90- 99	198-218	7	35	105	140
80- 89	176-196	6.5	33	97	130
70- 79	154-174	5.5	28	82	110
60- 69	132-152	5	25	75	100
50- 59	110-130	4	20	60	80
40- 49	88-108	3.5	18	52	70
30- 39	66- 86	3	15	45	60
20- 29	44- 64	2	10	30	40

*If patient weighs less than 20 kg (usually patients younger than 6 years), calculate the dose of acetylcysteine. Each mL of 20% acetylcysteine solution contains 200 mg of acetylcysteine. The loading dose is 140 mg per kilogram of body weight. The maintenance dose is 70 mg/kg. Three (3) mL of diluent are added to each mL of 20% acetylcysteine solution. Do not decrease the proportion of diluent.

Acetaminophen Overdose p.3

MSEC approved 06/22/11

IV dosing of Acetadote (IV acetylcysteine)

Also go to website www.acetadote.net and there is a dosing calculator where you can enter the exact weight of the patient and get each of the 3 doses

Table 1. Three-Bag Method Dosage Guide by Weight, patients ≥ 40 kg

Body Weight		LOADING Dose 150 mg/kg in 200 mL diluent [◇] over 60 min	SECOND Dose 50 mg/kg in 500mL diluent over 4 hours	THIRD Dose 100 mg/kg in 1000mL diluent over 16 hours
(kg)	(lb)	Acetadote (mL)	Acetadote (mL)	Acetadote (mL)
100	220	75	25	50
90	198	67.5	22.5	45
80	176	60	20	40
70	154	52.5	17.5	35
60	132	45	15	30
50	110	37.5	12.5	25
40	88	30	10	20

Table 2. Three-Bag Method Dosage Guide by Weight, patients >20 - <40 kg

Body Weight		LOADING Dose 150 mg/kg over 60 minutes		SECOND Dose 50 mg/kg over 4 hours		THIRD Dose 100 mg/kg over 16 hours	
(kg)	(lb)	Acetadote (mL)	Diluent [◇] (mL)	Acetadote (mL)	Diluent (mL)	Acetadote (mL)	Diluent (mL)
30	66	22.5	100	7.5	250	15	500
25	55	18.75	100	6.25	250	12.5	500

Table 3. Three-Bag Method Dosage Guide by Weight, patients ≤ 20 kg

Body Weight		LOADING Dose 150 mg/kg over 60 minutes		SECOND Dose 50 mg/kg over 4 hours		THIRD Dose 100 mg/kg over 16 hours	
(kg)	(lb)	Acetadote (mL)	Diluent [◇] (mL)	Acetadote (mL)	Diluent (mL)	Acetadote (mL)	Diluent (mL)
20	44	15	60	5	140	10	280
15	33	11.25	45	3.75	105	7.5	210
10	22	7.5	30	2.5	70	5	140

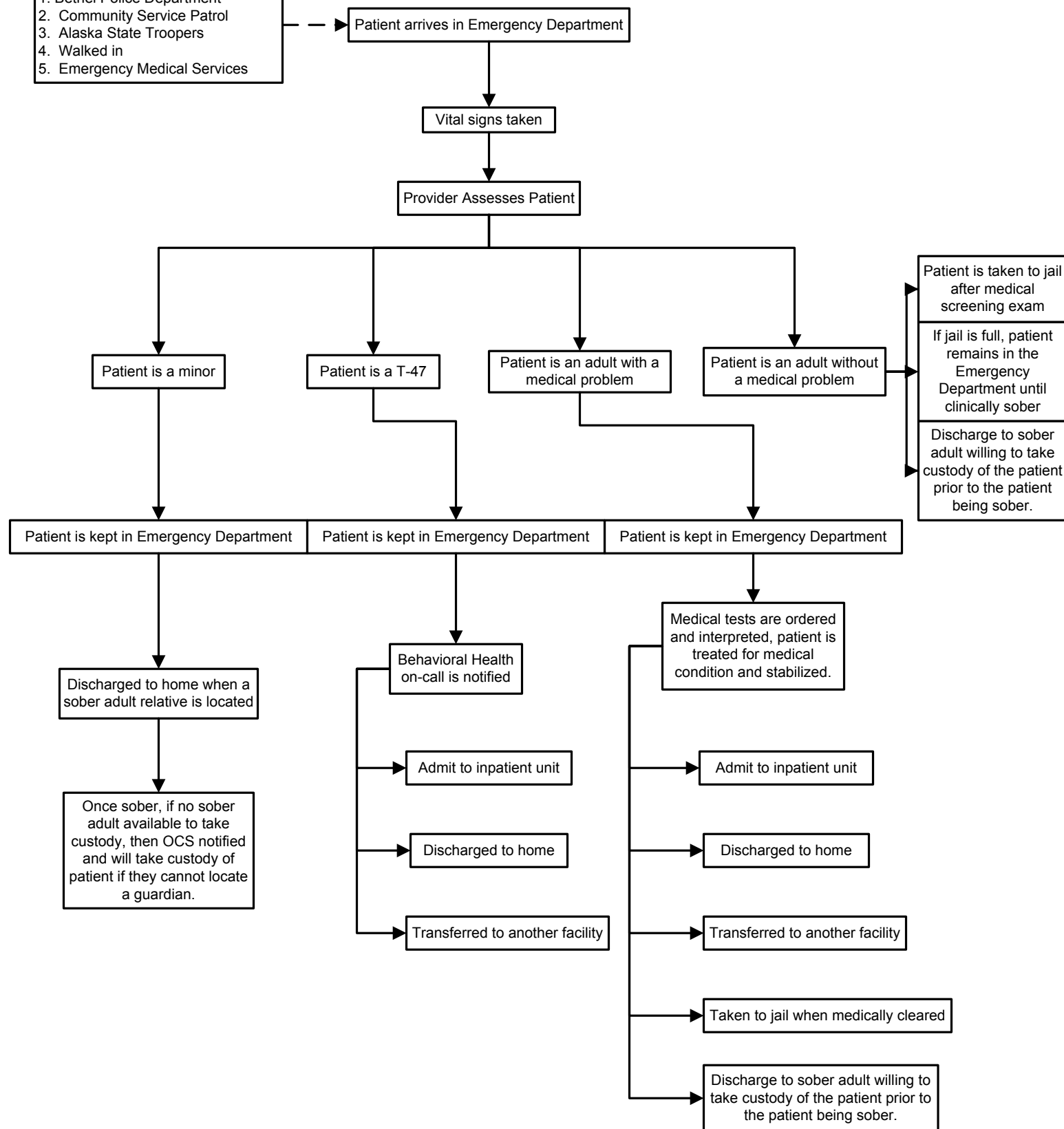
[◇]Acetadote is hyperosmolar (2600 mOsm/L) and is compatible with 5% Dextrose (D5W), ½ Normal Saline (0.45% Sodium Chloride Injection, ½ NS), and Water for Injection (WFI).

Intoxicated ER Patient

MSEC approved 06/22/11

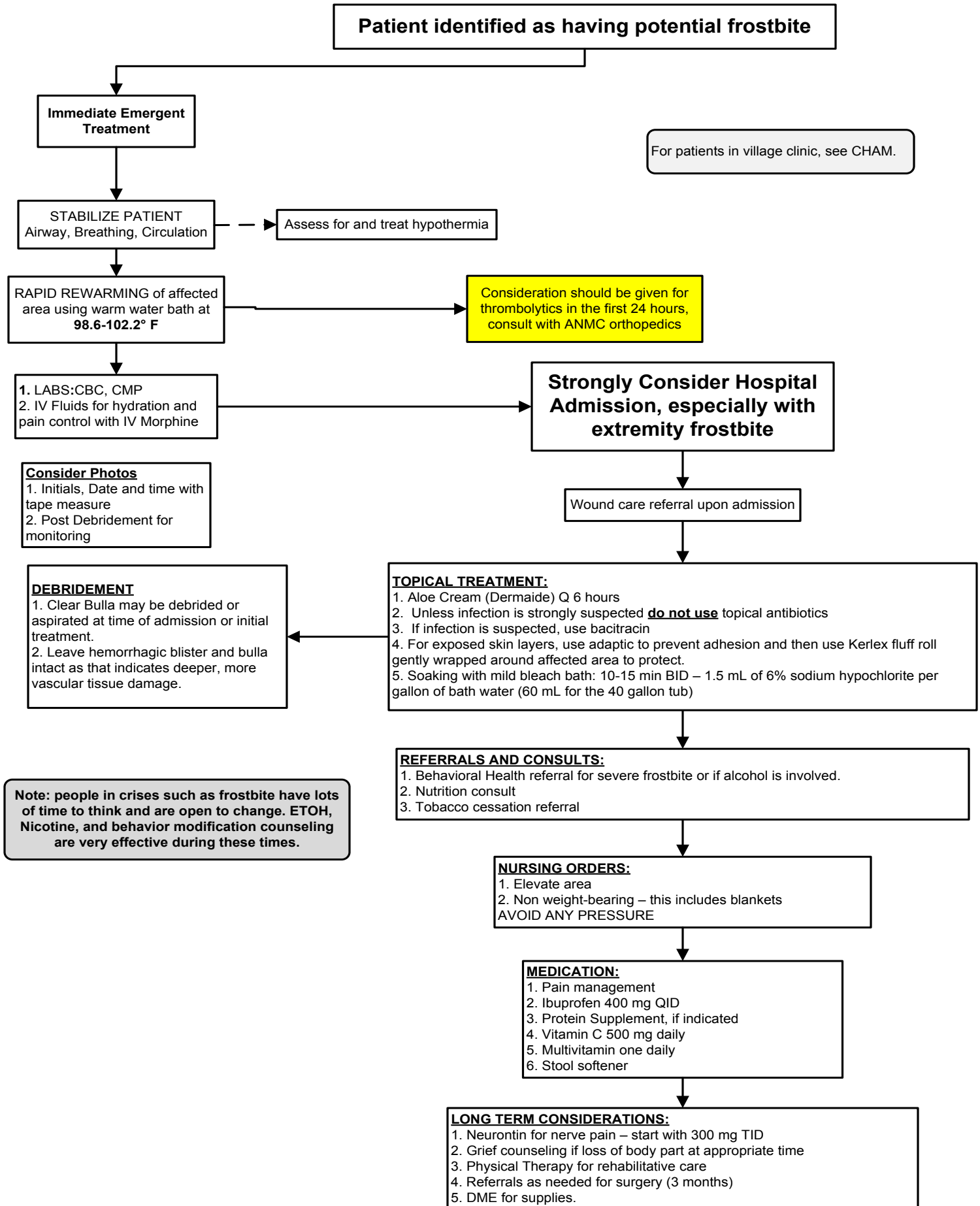
Mode of Arrival:

1. Bethel Police Department
2. Community Service Patrol
3. Alaska State Troopers
4. Walked in
5. Emergency Medical Services



Frostbite

MSEC Approved 7/12/17



First Trimester Vaginal Bleeding: Ectopic Pregnancy Diagnosis & Treatment of Non-Viable Early Pregnancy

MSEC approved 07/12/17

1

Nomenclature

- **Viable** – A pregnancy is viable if it can potentially result in a liveborn baby.
- **Nonviable** – A pregnancy is nonviable if it cannot possibly result in a liveborn baby. Ectopic pregnancies and failed intrauterine pregnancies are nonviable
- **Intrauterine pregnancy of uncertain viability** – A woman is considered to have this if a transvaginal US shows an intrauterine gestational sac with no embryonic heartbeat and no findings of definite pregnancy failure
- **Pregnancy of unknown location** – A woman is considered to have this if she has a positive urine or serum pregnancy test and no intrauterine or ectopic pregnancy on transvaginal US

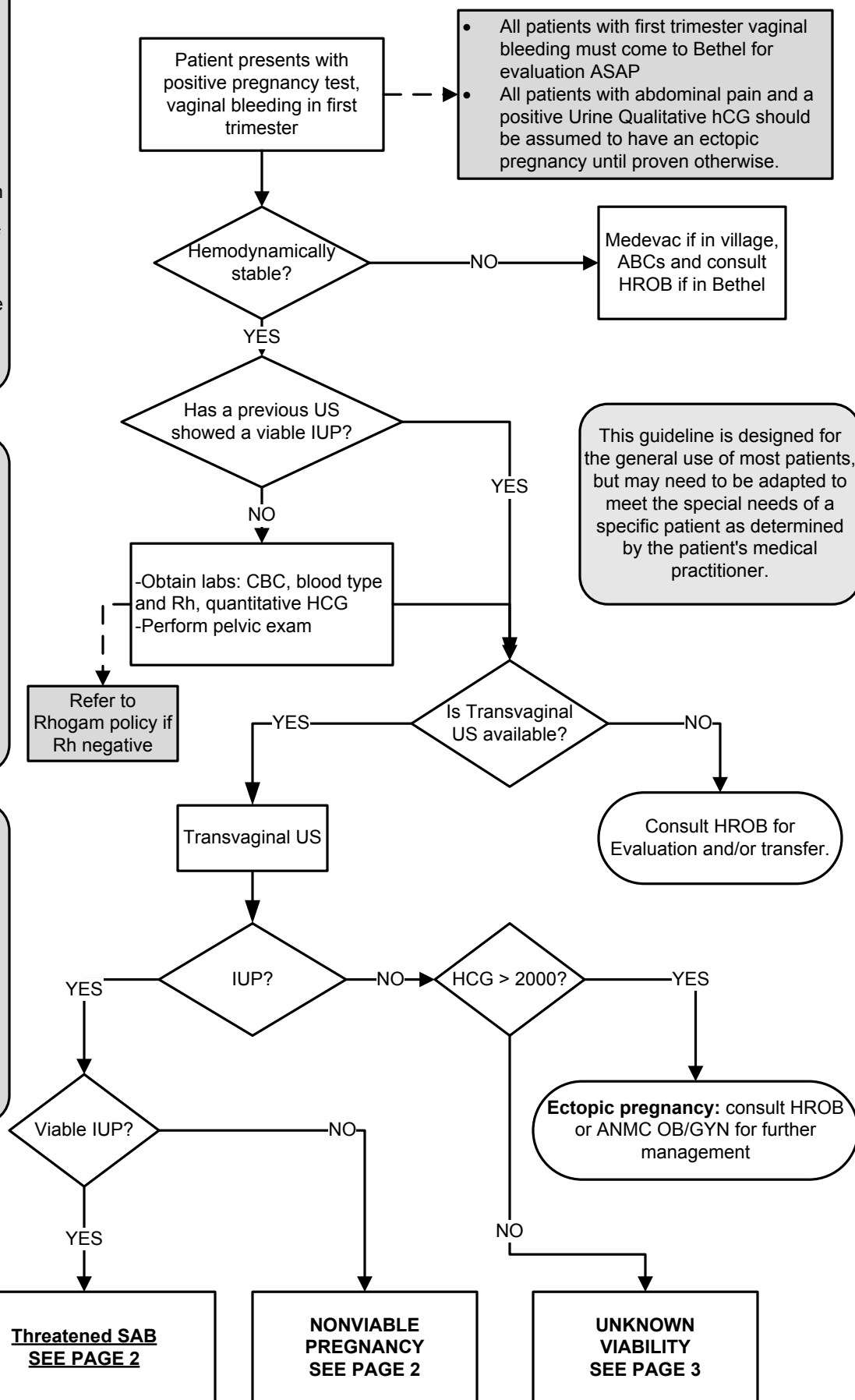
2

Findings diagnostic of Pregnancy Failure

- Crown-rump length of ≥ 7 mm and no heartbeat
- Mean sac diameter of ≥ 25 mm and no embryo
- Absence of embryo with heartbeat ≥ 14 days after an US that showed a gestational sac without a yolk sac
- Absence of embryo with a heartbeat ≥ 11 days after an US that showed a gestational sac with a yolk sac

Comments

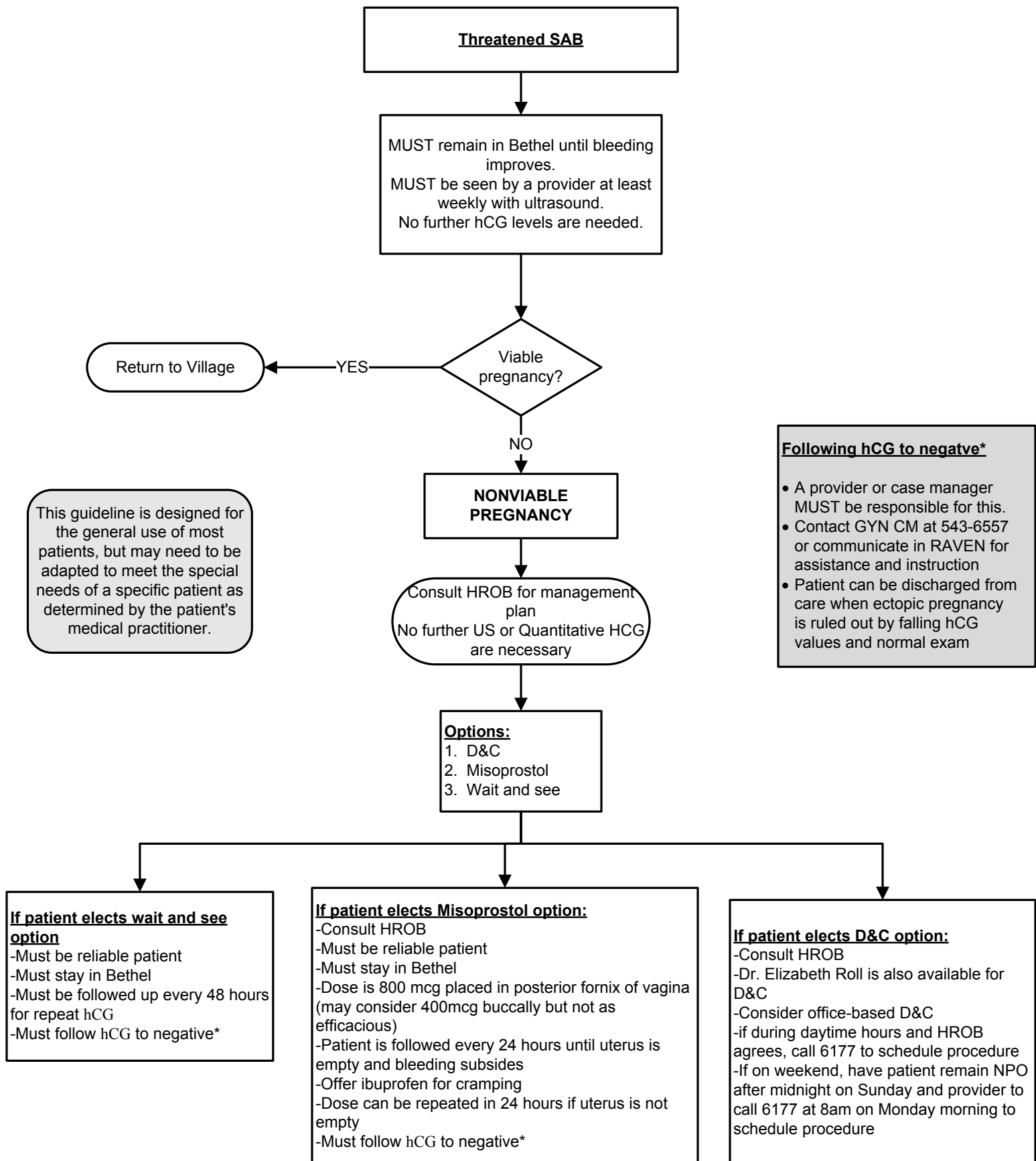
- In a woman with a positive urine or serum pregnancy test, an intrauterine fluid collection with rounded edges containing no yolk sac is most likely a gestational sac; it is certain to be a gestational sac if it contains a yolk sac or embryo.
- Transabdominal imaging without transvaginal scanning may be sufficient for diagnosing early pregnancy failure when an embryo whose crown-rump length is 15mm or more has no visible cardiac activity.



First Trimester Vaginal Bleeding: Ectopic Pregnancy Diagnosis & Treatment of Non-Viable Early Pregnancy

PAGE 2

MSEC approved 07/12/17



First Trimester Vaginal Bleeding: Ectopic Pregnancy Diagnosis & Treatment of Non-Viable Early Pregnancy

MSEC approved 07/12/17

PAGE 3

1

Nomenclature

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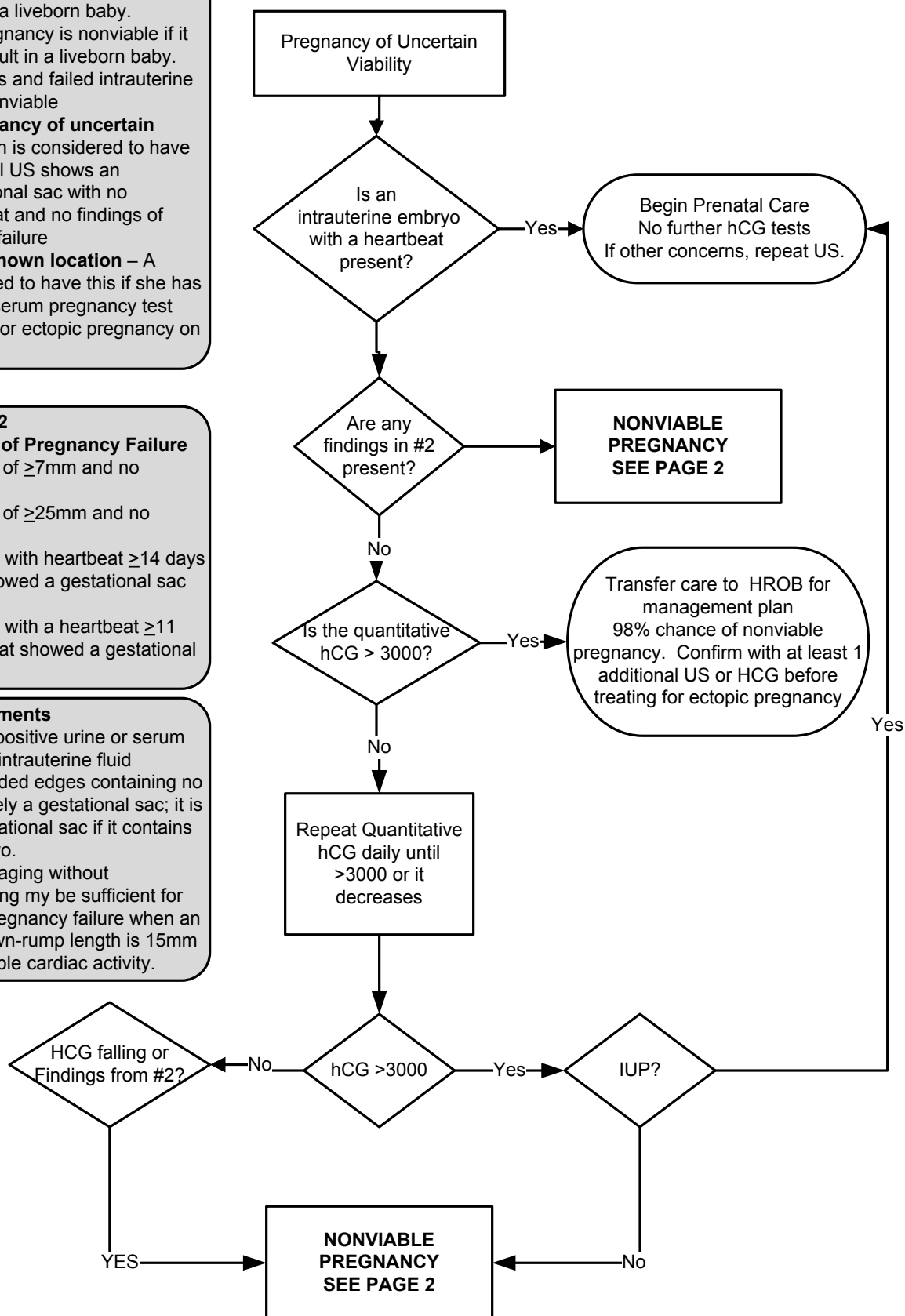
2

Findings diagnostic of Pregnancy Failure

- Crown-rump length of ≥ 7 mm and no heartbeat
- Mean sac diameter of ≥ 25 mm and no embryo
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Comments

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2017
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Pediatrics Guidelines

Pediatric Emergency Guidelines

(For Pediatric Critical Care Weight-Based Guide,
see https://yk-health.org/wiki/File:Pediatric_critical_care_guide.pdf)

Critical Care and Medevac Guide – Pediatric. 27

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High-Flow Nasal Cannula (HFNC) — Pediatric 29

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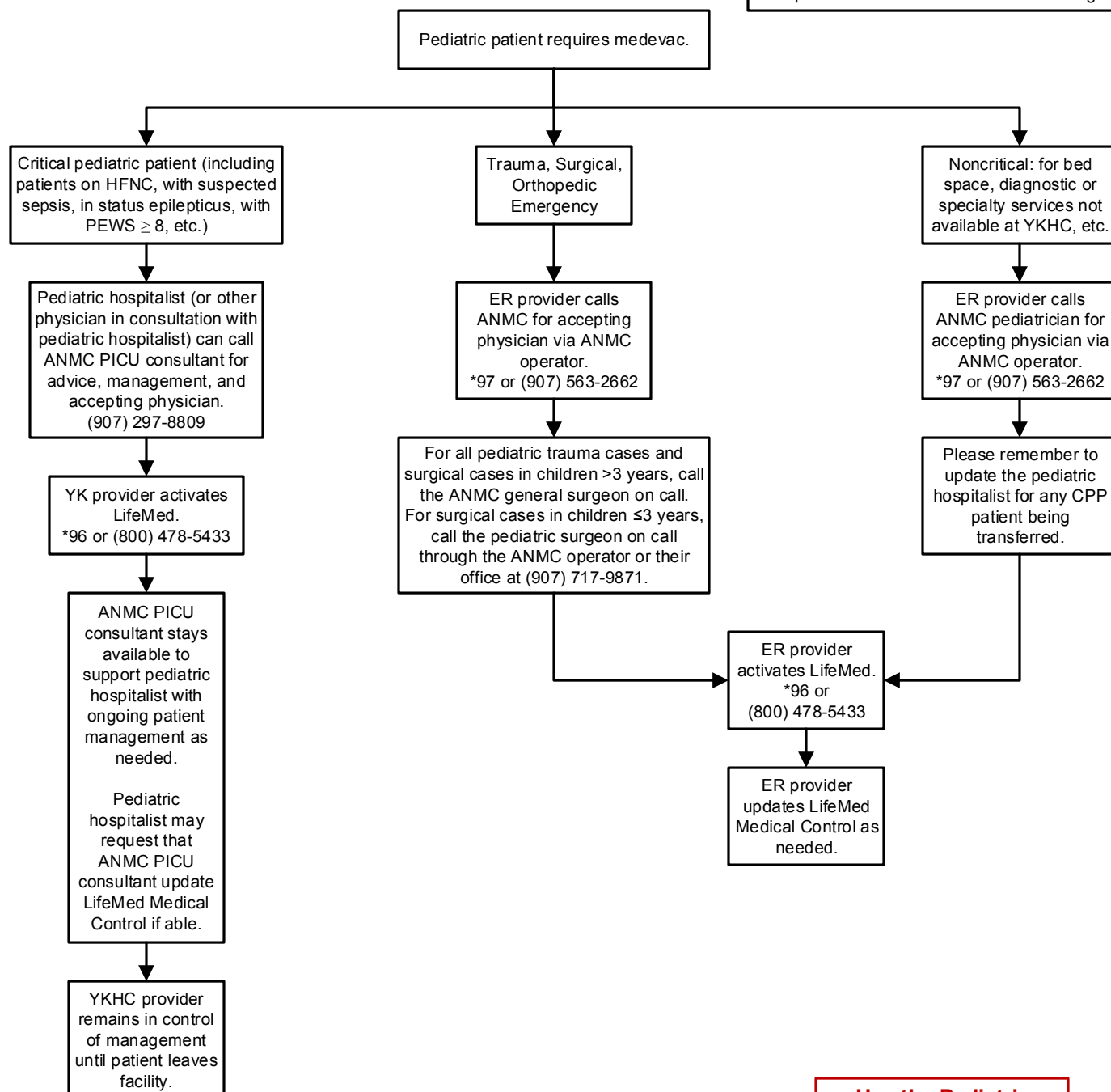
Head Injury/Concussion 5-18 Years 38

Critical Care and Medevac Guide – Pediatric

MSEC Approved 9/13/17

Call pediatric hospitalist for all potentially critical pediatric patients.

Remember: non-beneficiary patients are transferred to Providence Alaska Medical Center. Call their PICU at (907) 212-3133 to obtain accepting physician (PICU or hospitalist). Inquire about medevac insurance coverage.

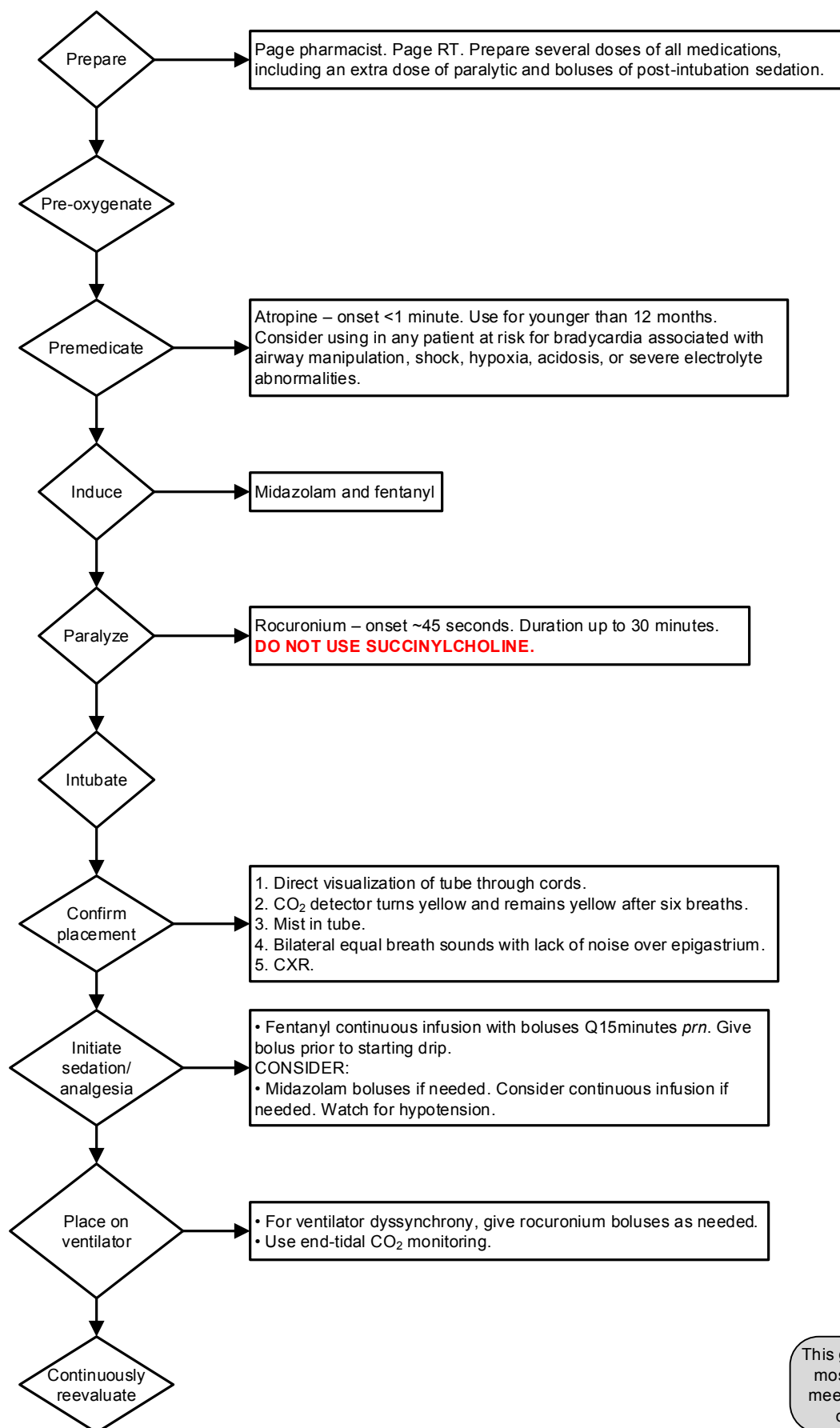


Use the Pediatric Critical Care Guide and ED Peds Critical Care PowerPlan.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Intubation – Pediatric

MSEC approved 07/12/17

**REMEMBER:**

Helpful resources include:

- Pharmacist on-call
- Respiratory therapist
- CRNA on-call
- Difficult Airway Drawer with laryngeal mask airway (LMA)
- GlideScope®

Always place NG/OG tube for decompression.

Use the Pediatric Critical Care Guide and ED Peds Critical Care PowerPlan for all medication dosing.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

High-Flow Nasal Cannula (HFNC) — Pediatric

MSEC Approved 7/12/17

REMEMBER:

- Any pediatric patient on HFNC must be transferred to the ER except for newborns, who may stay in the nursery.
- Maintain patient on HFNC until medevac crew arrives.
- No pediatric patient may be kept at YKDRH on HFNC unless medevac is on weather-hold.

Patient with moderate to severe sustained retractions or sustained hypoxia <88% not improved with SUPPORTIVE MEASURES (see box) and 2 LPM conventional nasal cannula or infant with apnea responsive to stimulation

Page respiratory therapist.

Page pediatrician on-call.

- Transfer to ER.
- Activate medevac.
- PREPARE PATIENT (see box).

RT to start high-flow nasal cannula with pediatrician consultation.

Initial Settings
Flow 5 LPM, FiO₂ 50%, 37°C.
For newborns, consult neonatologist.

Titrate flow by 1 LPM increments over first 3 minutes until improvement in WOB.
If patient is worsening on high flow rates, consider a trial of a lower flow rate.

Titrate FiO₂ to maintain sats >92%.

Frequent gentle nasal suction

Reassess at least Q20-30 minutes.

Signs of Clinical Improvement

- ↓RR
- ↓retractions
- ↓irritability
- improved air movement

Maintain current settings until medevac arrives.

If no improvement, consider obtaining ANMC PICU consult, checking blood gas, increasing supportive measures, intubation, etc.

SUPPORTIVE MEASURES

- Control fever, as it can be an independent cause of respiratory distress.
- Nasal suction
- IV hydration
- Back-to-back nebs with albuterol or normal saline
- Hypertonic saline nebs q6h

PREPARE PATIENT

- Make patient NPO.
- Ensure reliable IV access.
- Suction nares well.
- Give phenylephrine ophthalmic form 1-2 drops to each nostril once.
- Choose a nasal cannula with prongs that do not occlude more than 50% of the nares.
- Optimal patient position is semi-recumbent, not supine or upright. Use special blue seat (found in ER storage between trauma and ambulance bays) with adjustable angle.
- To prevent condensation causing problems, place patient at a higher level than unit and clip tubing to patient's clothing.

NOTE:

- Low-flow cartridge to be used with neonatal/ infant cannula and produces flow rates of 1-8 LPM. This should only be used in the nursery.
- High-flow cartridge to be used with larger cannula and produces flow rates of 5-40 LPM. In the ER, always start with the high-flow cartridge.

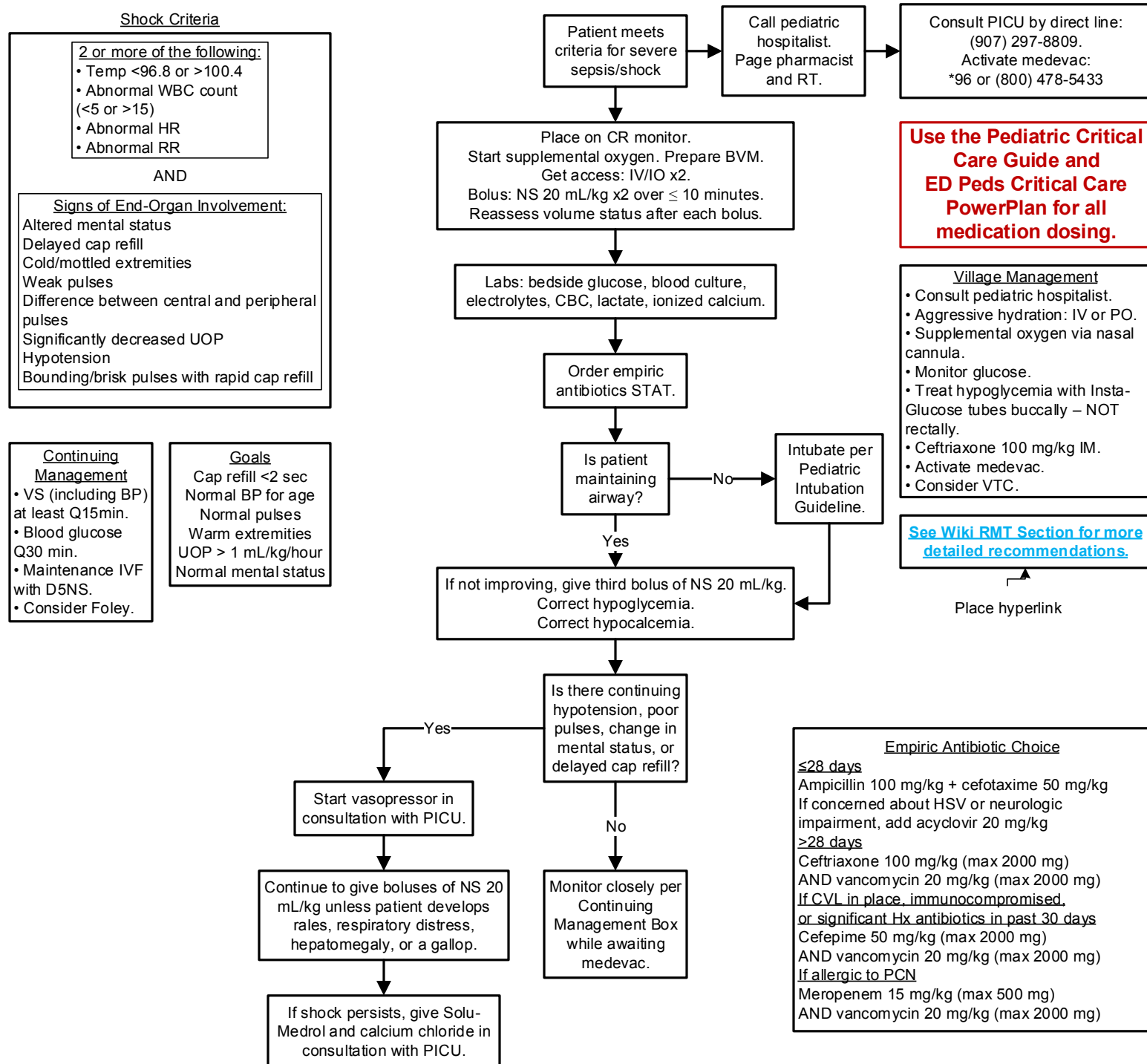
Troubleshooting

- Consider NG/OG-tube for decompression.
- Use a pacifier to keep the patient's mouth closed and prevent loss of pressure.
- Consider mild sedation in consultation with medical control.
- Consider higher levels of flow to improve washout.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Sepsis – Pediatric

MSEC approved 07/12/17



Age	HR (beats/minute)		RR (breaths/minute)		Hypotension (sBP in mmHg)
	Bradycardia	Tachycardia	Low	High	
0 days – 1 week	<100	>200	<30	>70	<60
1 week – 1 month	<100	>200	<30	>70	<60
1 – 3 months	<100	>180	<20	>60	<70
3 – 12 months	<100	>180	<20	>60	<70
1 – 2 years	<90	>160	<20	>40	<70
2 – 6 years	<60	>160		>40	<80
6 – 13 years	<60	>120		>23	<90
13 – 18 years	<60	>110		>23	<90

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Seizure Evaluation – First Non-Febrile

MSEC approved 11/12/13

Box 1: History

Associated features:

- Age
- Family history
- Development
- Health at onset of seizure
- Precipitating factors (trauma, toxins)

Symptoms during seizure:

- Abnormal jerking/shaking, eye movements or deviation, head positioning, posturing, stiffening, lip smacking, blinking
- Loss of consciousness or decreased responsiveness
- Irregular respirations or cyanosis
- Abnormal vocalizations
- Drooling, incontinence, vomiting
- Aura

Post ictal symptoms:

- Confusion
- Lethargy
- Transient focal weakness (Todd's paralysis)
- Nausea/vomiting
- Irritability

Status Epilepticus:

1. Call Pediatrics
2. Start treatment per Broselow Weight-Based Critical Care Sheet or Pediatric Critical Care PowerPlan.
3. If patient is in village, use IV form of diazepam (Valium). Give 0.5 mg/kg RECTALLY. May repeat q5 minutes up to three total doses. Prepare bag and mask prior to giving.

Box 2: Work-up

Labs:

- Obtain bedside glucose and electrolytes, including magnesium

Consider:

- Urine drug screen
- Perform LP if persistent altered mental status, meningitis suspected, or < 12 months of age and delayed return to baseline
- Other labs as indicated by history and physical exam

Radiological studies:

- Obtain head CT if history of trauma or focal neurological findings

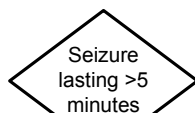
Differential Diagnosis of

Convulsions:

- Breath holding
- Syncope
- Arrhythmia

Underlying Causes of Seizures

- Hypoglycemia
- Hyponatremia
- Meningitis
- Trauma
- Metabolic disorder
- Ingestion
- Hypoxia
- Tumor
- Cerebral hemorrhage



No

Obtain detailed history
(See Box 1) and
perform focused
neurologic exam

Perform work-up as
appropriate.
(See Box 2)

Follow-up with pediatrics
to consider EEG, MRI,
and/or neurology consult.

At discharge, prescribe Diastat (rectal
diazepam gel).
No daily antiepileptics are indicated
unless:
-recurrent seizures
-atypical seizures
-recommended by neurology consult

Indications for Admission or Transfer:

- Status epilepticus
- Cluster of seizures
- Increased intracranial pressure
- CNS infection
- Structural lesion
- Patient does not return to baseline mental status

This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner.

Seizure Evaluation – First Febrile

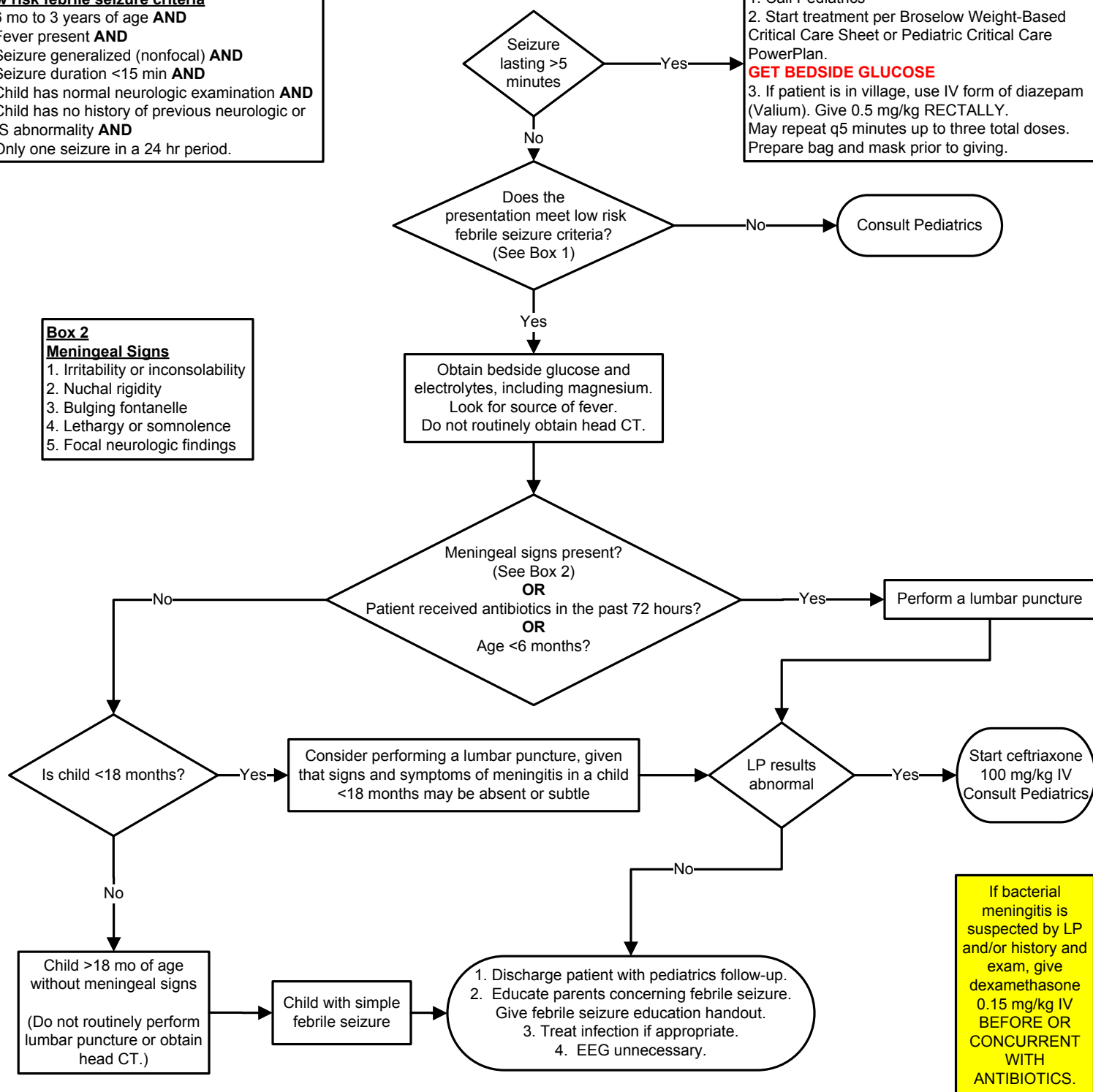
MSEC approved 11/12/13

Box 1
Low risk febrile seizure criteria

1. 6 mo to 3 years of age **AND**
2. Fever present **AND**
3. Seizure generalized (nonfocal) **AND**
4. Seizure duration <15 min **AND**
5. Child has normal neurologic examination **AND**
6. Child has no history of previous neurologic or CNS abnormality **AND**
7. Only one seizure in a 24 hr period.

Status Epilepticus:

1. Call Pediatrics
2. Start treatment per Broselow Weight-Based Critical Care Sheet or Pediatric Critical Care PowerPlan.
3. **GET BEDSIDE GLUCOSE**
3. If patient is in village, use IV form of diazepam (Valium). Give 0.5 mg/kg RECTALLY. May repeat q5 minutes up to three total doses. Prepare bag and mask prior to giving.

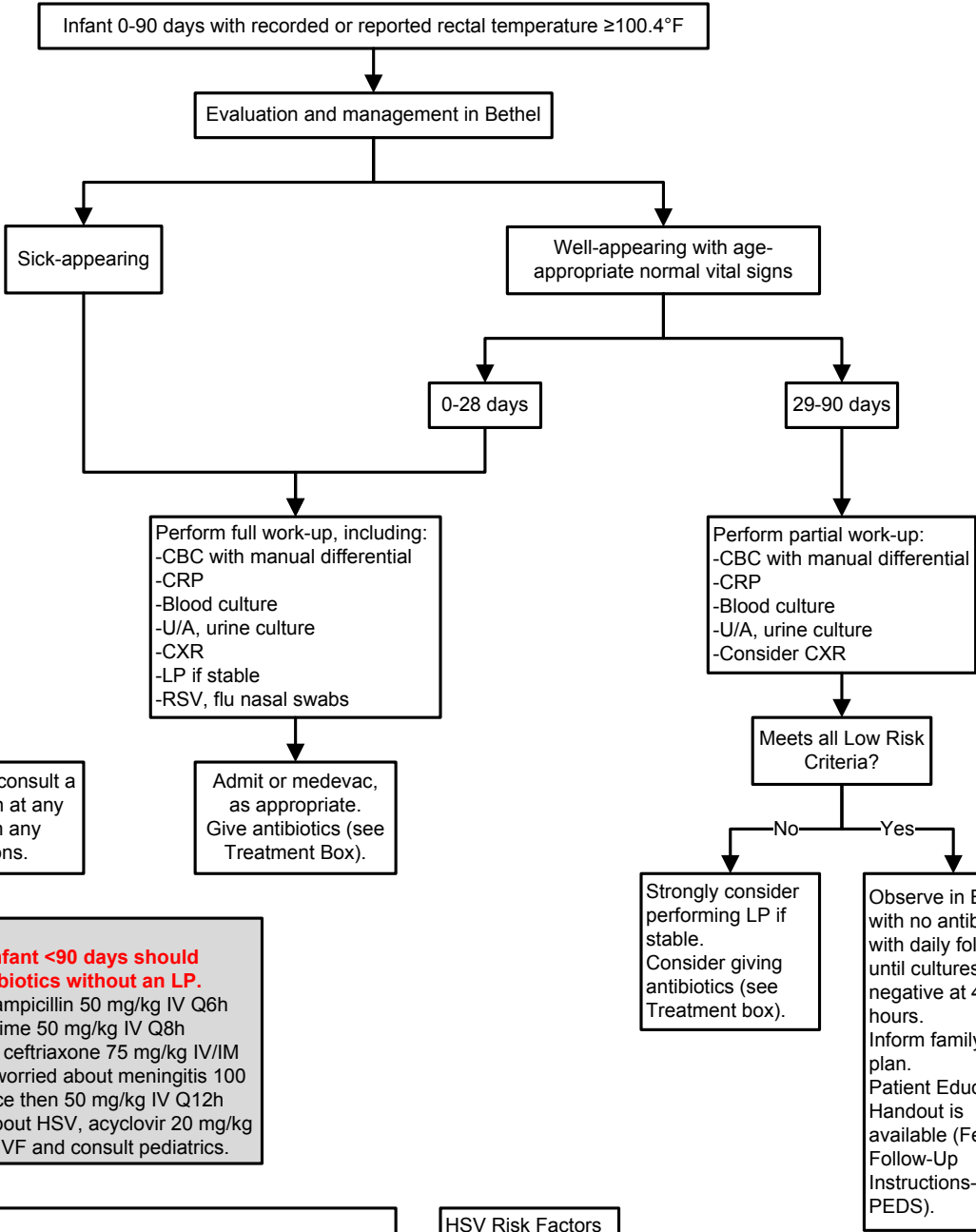


If bacterial meningitis is suspected by LP and/or history and exam, give dexamethasone 0.15 mg/kg IV BEFORE OR CONCURRENT WITH ANTIBIOTICS.

This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner.

Fever – Infants 0-90 days

MSEC Approved 2/10/16



Feel free to consult a pediatrician at any time with any questions.

Treatment
No febrile infant <90 days should receive antibiotics without an LP.
-0-28 days: ampicillin 50 mg/kg IV Q6h AND cefotaxime 50 mg/kg IV Q8h
-29-90 days: ceftriaxone 75 mg/kg IV/IM Q24h OR if worried about meningitis 100 mg/kg IV once then 50 mg/kg IV Q12h
-If worried about HSV, acyclovir 20 mg/kg IV Q8h with IVF and consult pediatrics.

Special Circumstances
1. Immunizations within 24 hours of fever <101 and well-appearing: no work-up necessary but must follow-up in village or Bethel within 12-24 hours. If fevers persist or infant is not well-appearing, perform work-up as above.
2. Pre-treatment with antibiotics with no focal bacterial infection: infant must be observed a full 48 hours off antibiotics. This may require staying in Bethel for 48 hours of antibiotics followed by another 48 hours of observation off antibiotics with daily follow-up.
3. Unsuccessful LP: treat if appropriate and attempt repeat LP in 12-24 hours and determine treatment course based on cell counts. If unsuccessful, either treat for 10 days with meningitic dosing of IV antibiotics or stop antibiotics at 48 hours and observe infant for an additional 48 hours off antibiotics. Consider admission.

HSV Risk Factors
Seizure
Maternal history of oral or genital HSV in infant <28 days who was delivered vaginally

HSV Work-up
-CSF HSV PCR
-Blood HSV PCR
-CMP
-Nasopharyngeal, conjunctival, and anal swabs and vesicle fluid for HSV PCR.

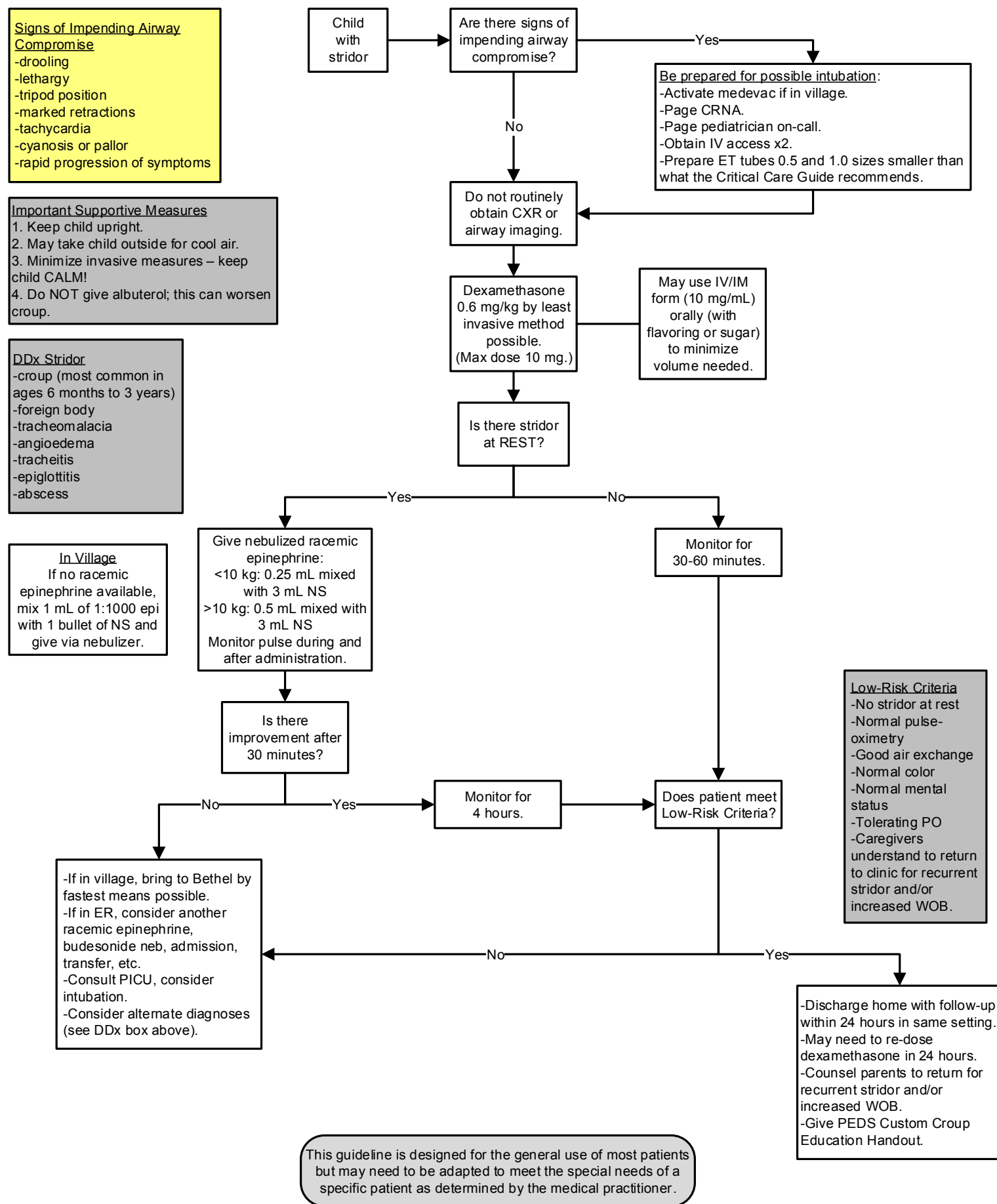
Low Risk Criteria
-Well-appearing
-Previously healthy
-Full term >37 weeks
-No focal bacterial infection, such as pneumonia or UTI.
-WBC count 5-15
-Absolute band count <1500
-No thrombocytopenia
-U/A with negative nitrites, negative leukocyte esterase, <10 WBC

Normal CSF	0-28 days	29-90 days
WBC	<20	<10
Glucose	>40	>40
Protein	<120	<120
Absence of neutrophils (polys) makes bacterial meningitis unlikely. CSF Neutrophils (polys) >75% increases likelihood of bacterial meningitis. Do not use correction formulas for traumatic LPs.		

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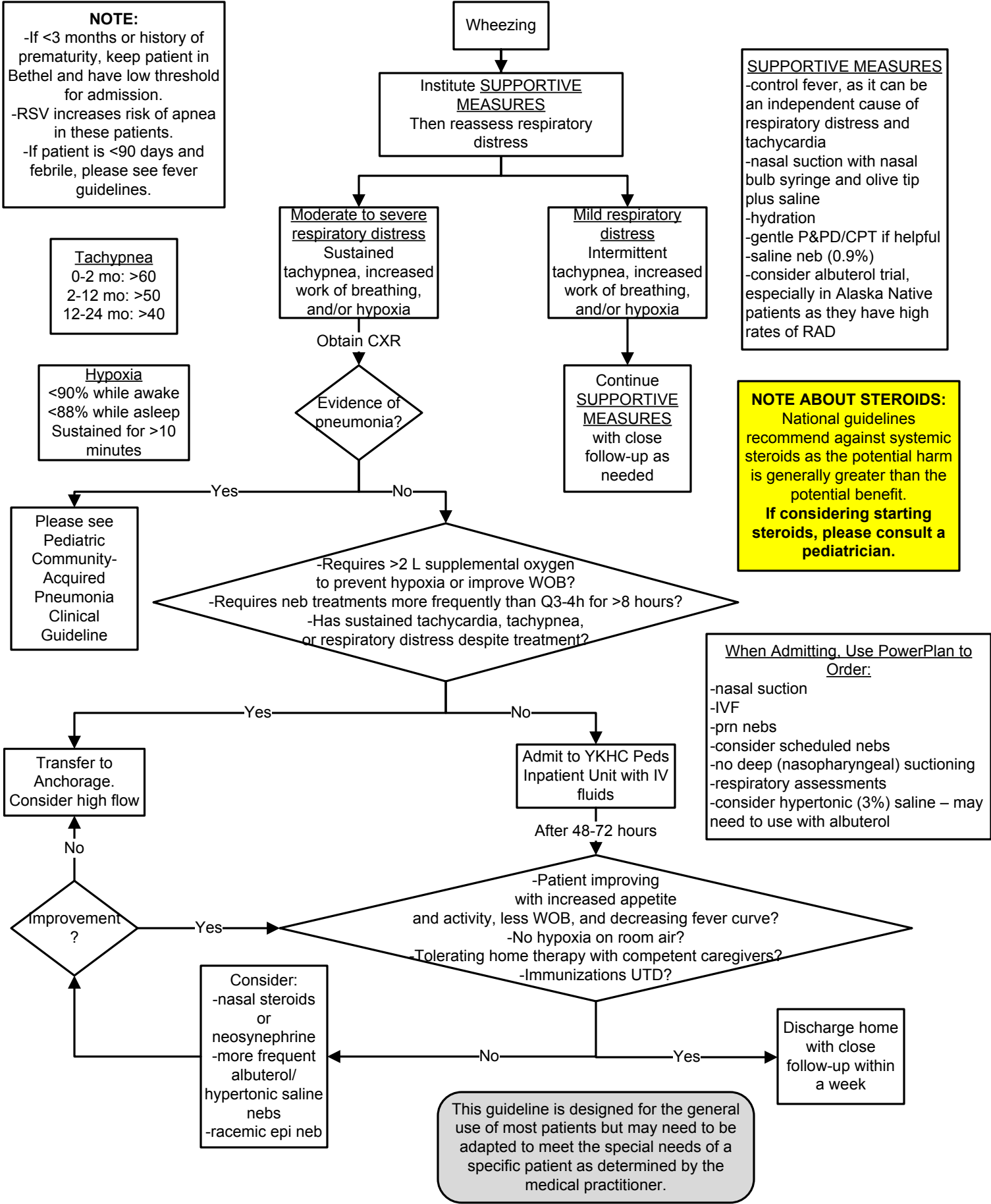
Croup/Stridor: Evaluation & Treatment

MSEC Approved 7/12/17



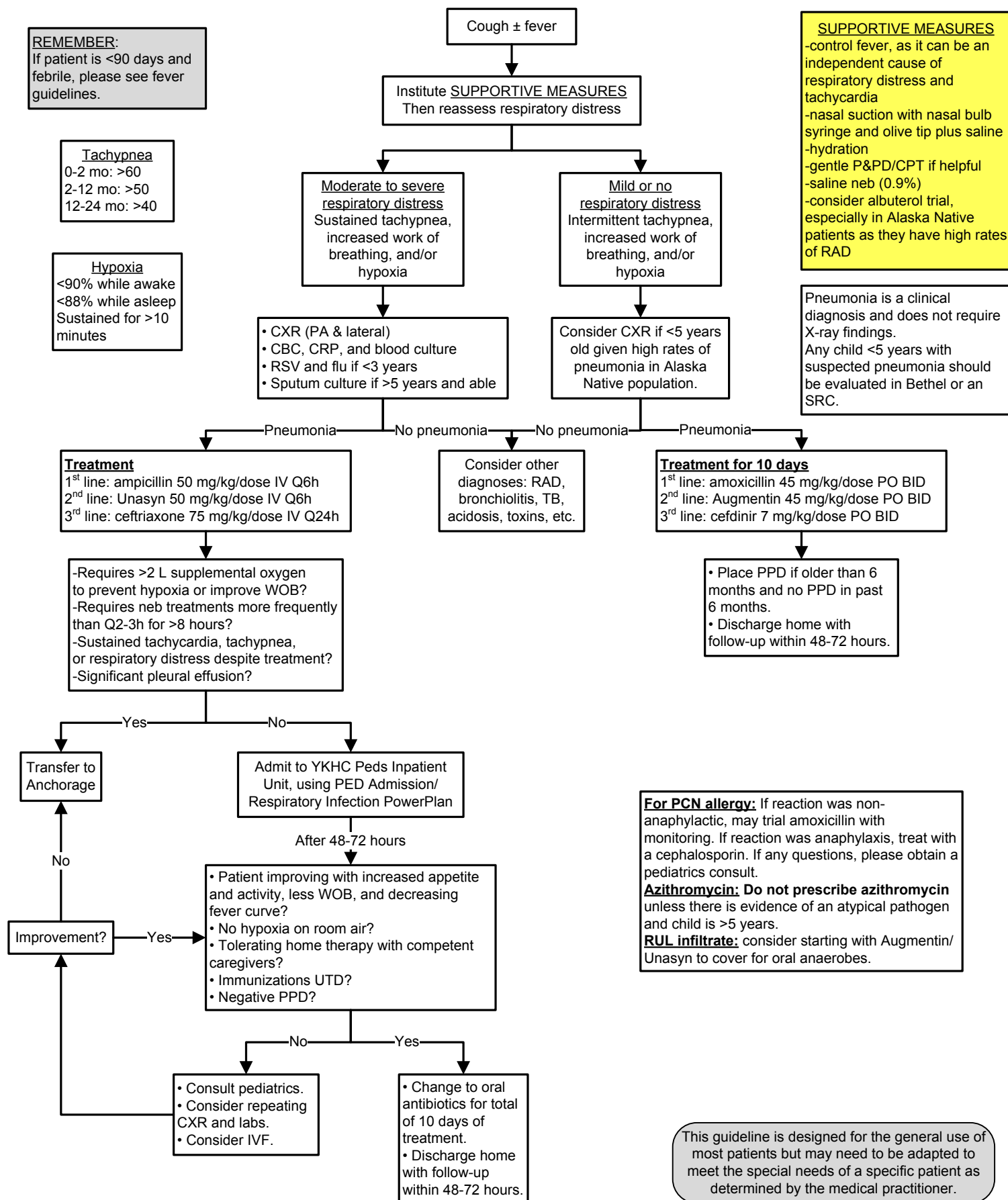
Bronchiolitis / Wheezing – 3-24 Months

MSEC Approved 2/11/15



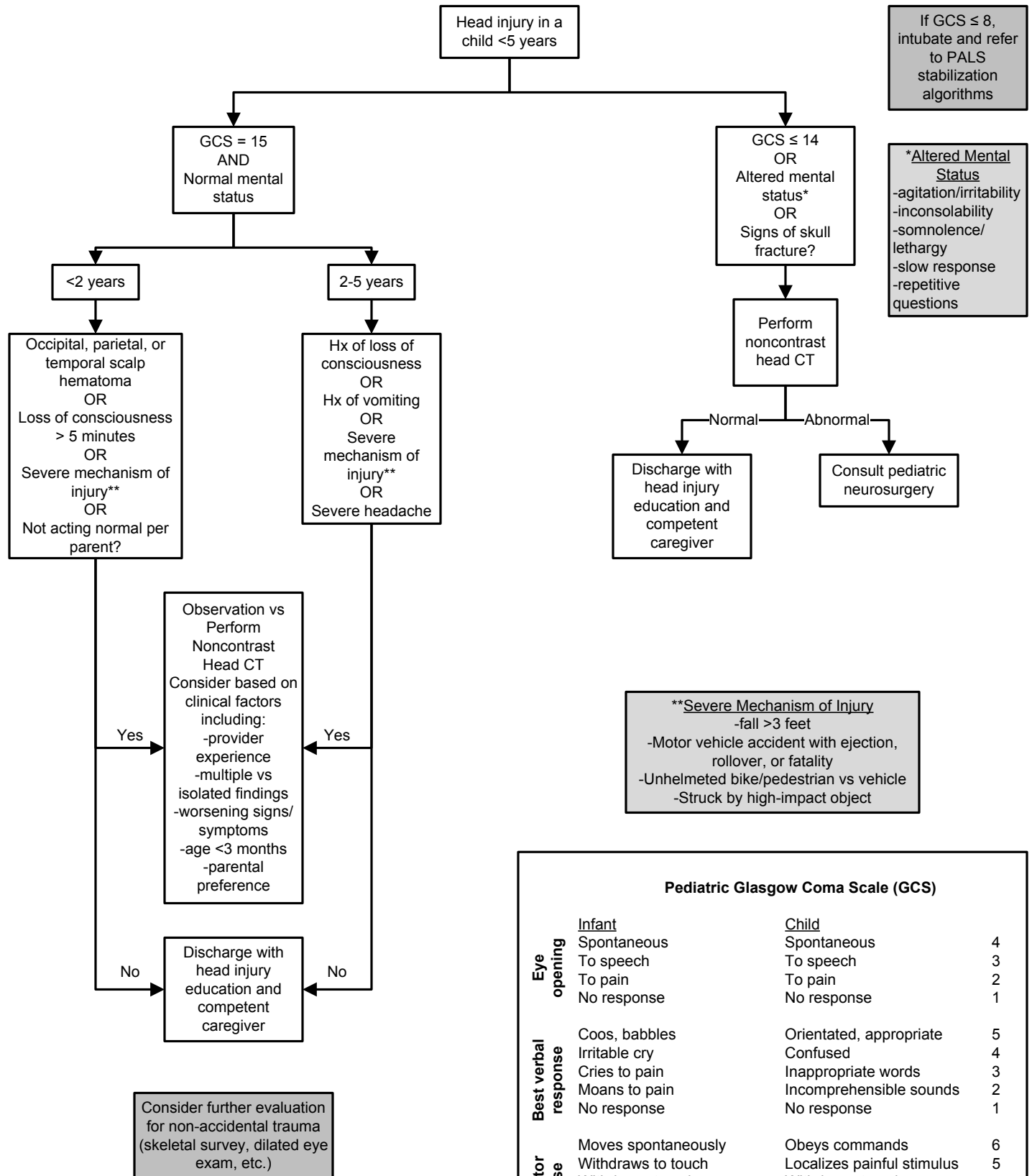
Pneumonia – Pediatric > 3 Months

MSEC Approved 5/13/15



Head Injury in Children < 5 Years

MSEC Approved 4/8/15



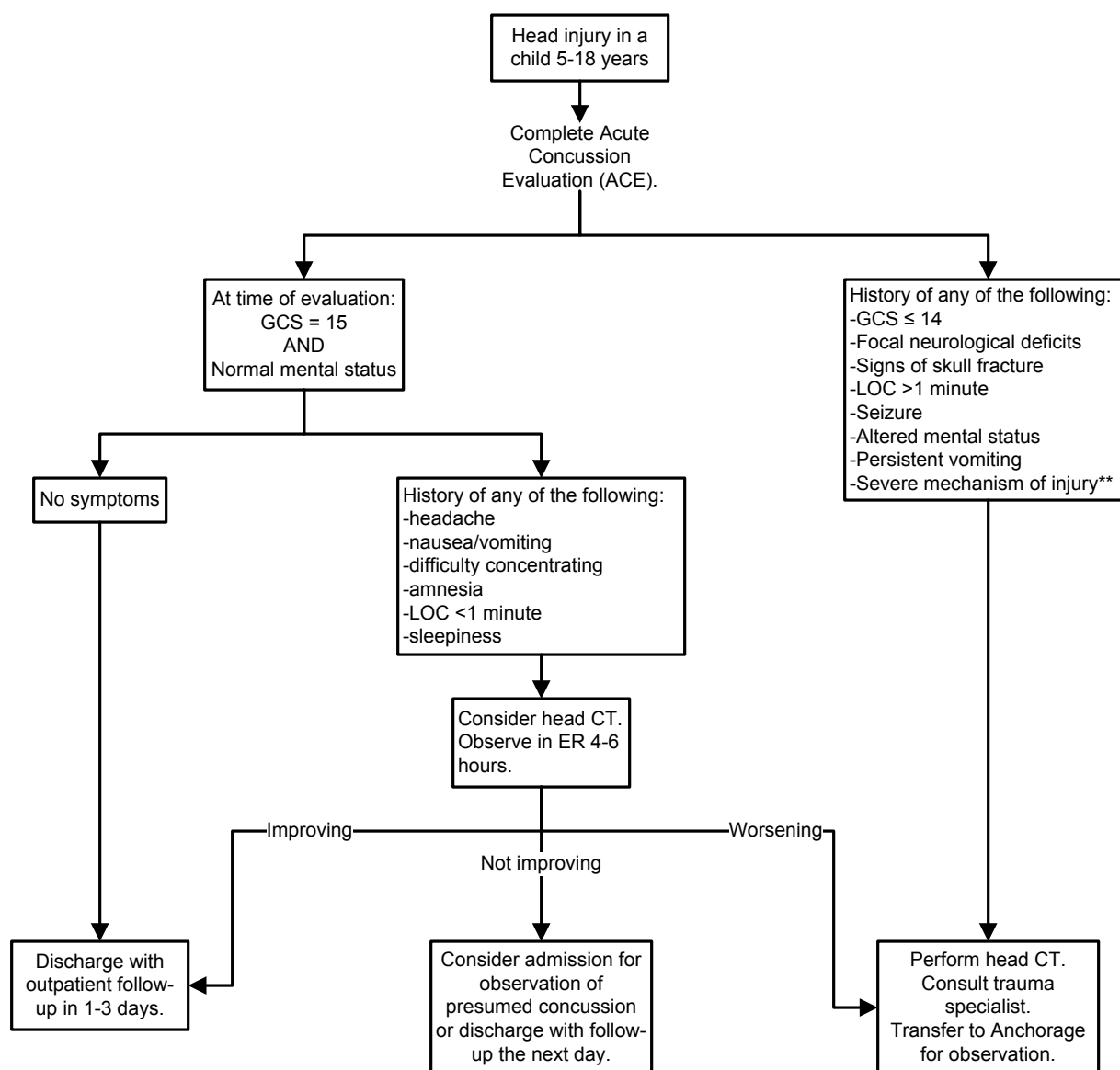
Pediatric Glasgow Coma Scale (GCS)

		Infant	Child	
Eye opening	Spontaneous	Spontaneous		4
	To speech	To speech		3
	To pain	To pain		2
	No response	No response		1
Best verbal response	Coos, babbles	Orientated, appropriate		5
	Irritable cry	Confused		4
	Cries to pain	Inappropriate words		3
	Moans to pain	Incomprehensible sounds		2
	No response	No response		1
Best motor response	Moves spontaneously	Obeys commands		6
	Withdraws to touch	Localizes painful stimulus		5
	Withdraws to pain	Withdraws to pain		4
	Flexion to pain	Flexion to pain		3
	Extension to pain	Extension to pain		2
	No response	No response		1

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Head Injury/Concussion 5-18 Years

MSEC Approved 9/14/16



Avoid medications that can worsen somnolence.
Consider prescribing acetaminophen, ibuprofen, and ondansetron as needed.

Outpatient Follow-Up

- Complete ACE at every visit.
- Consider balance testing.
- Return to school per CDC Heads Up Protocol. (<http://www.cdc.gov/headsup/index.html>)
- Return to play per ASAA Guidelines.
- If symptoms persist >3-4 weeks, consider referral to neurologist, psychologist, physical therapy, etc.

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**Severe Mechanism of Injury

- Fall >3 feet
- Motor vehicle accident with ejection, rollover, or fatality
- Unhelmeted bike/pedestrian vs vehicle
- Struck by high-impact object

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Pediatric Outpatient Guidelines

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TB Evaluation & Treatment – Pediatric.	44
Suspected Prepubescent Child Sexual Abuse Procedure	45–46

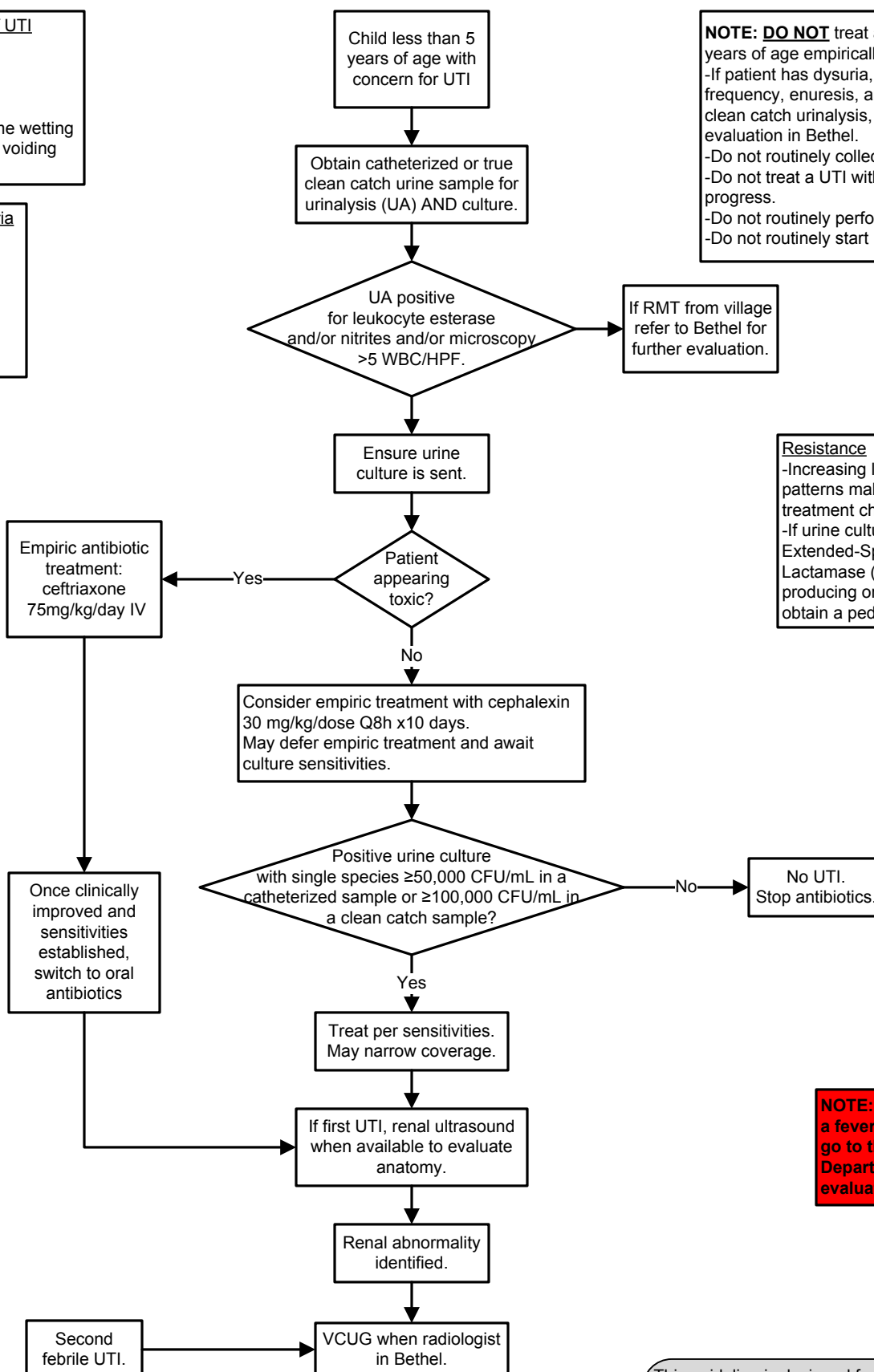
UTI – Children 3 Months–5 Years

MSEC Approved 9/14/16

Signs and Symptoms of UTI
 -fever
 -dysuria
 -vomiting
 -abdominal pain
 -new daytime or nighttime wetting
 -increased frequency of voiding
 -malodorous urine

Differential Dx for Dysuria
 -UTI
 -vulvovaginitis
 -Candida infection
 -poor hygiene
 -sexual abuse
 -age-appropriate self-exploration

NOTE: DO NOT treat any child under 5 years of age empirically in the village.
 -If patient has dysuria, increased frequency, enuresis, and/or abnormal clean catch urinalysis, consider further evaluation in Bethel.
 -Do not routinely collect urine via bag.
 -Do not treat a UTI without a culture in progress.
 -Do not routinely perform a test of cure.
 -Do not routinely start UTI prophylaxis.



Resistance
 -Increasing local resistance patterns makes empiric treatment challenging.
 -If urine culture grows an Extended-Spectrum Beta-Lactamase (ESBL) producing organism, please obtain a pediatrics consult.

NOTE: Any infant with a fever <90 days must go to the Emergency Department for evaluation.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Otitis Media 3 Months–12 Years

MSEC Approved 9/14/16

Table 1: AOM Decision-Making Principles

- Try not to give antibiotics if observation is warranted.
- Always treat pain.
- If patient has not received amoxicillin within 30 days, start with amoxicillin to treat new infection.
- For AOM with otorrhea, use otic drops if >6 months. Do not use oral antibiotics unless the other ear is infected without perforation.
- Do not treat fluid that develops after AOM if child is asymptomatic – observe up to 3 months.
- Do not use azithromycin, erythromycin, cephalexin (Keflex), or Septra for AOM.
- Do not use antibiotic prophylaxis.

AOM ≥3 months

Acute onset of:

- Fever and ear pain
- Bulging TM and decreased mobility

See Table 1.

AOM <3 Months Old

If suspecting AOM <3 months old, patient must be seen by provider within 24 hours.

- ≤28 days old: patient must be seen in the ER for full lab work-up including LP and treatment with IV antibiotics.
- 29-60 days old with or without fever, patient must be seen in the ER for full lab work-up including LP.
 - If febrile, follow fever < 90 days clinical guideline.
 - If afebrile and reassuring work-up, may treat with oral antibiotics as appropriate.
- 61-90 days old:
 - If febrile, follow fever < 90 days clinical guideline.
 - If afebrile and sick-appearing, perform work-up as clinically appropriate. May consult peds as needed.
 - If afebrile and well-appearing, lab work-up not necessary. May treat with oral or otic antibiotics as appropriate.

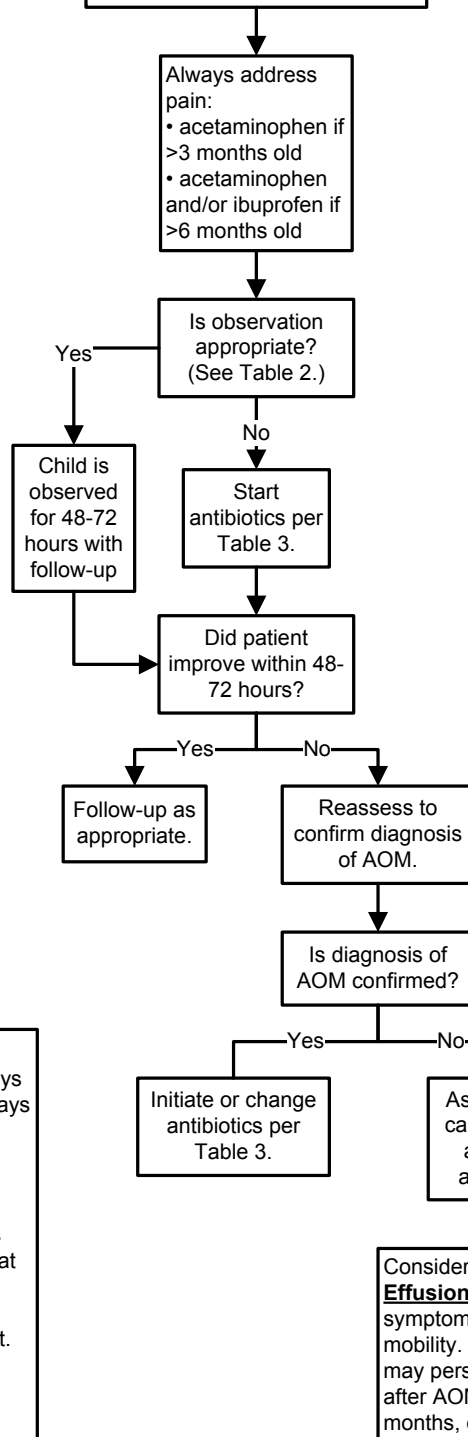


Table 2: Eligibility for Observation for 48-72 hours

- 6-24 month old with mild, uncertain, or unilateral AOM
- >24 month old with mild/moderate (non-bulging) AOM
- Caregiver comfortable withholding antibiotics
- Follow-up assured
- Antibiotics can be started promptly if symptoms persist or worsen
- No fever >102°F and only mild otalgia

Table 3: AOM Treatment

- 1st line: amoxicillin 45 mg/kg/dose PO BID for 10 days
 2nd line: Augmentin 45 mg/kg/dose PO BID for 10 days
 3rd line: cefdinir 7 mg/kg/dose PO BID for 10 days
 4th line: ceftriaxone 75 mg/kg IV/IM QD for 3 days

Otitis-conjunctivitis syndrome

Augmentin 45 mg/kg/dose PO BID for 10 days

Try to avoid using cephalosporins. They are less effective at treating the most common organisms that cause OM. Additionally, cefdinir takes 3-5 days to reach the villages.

For PCN allergy: Please obtain a pediatrics consult.

For ruptured TM/tube drainage:

Wick ears prior to giving drops.
 Ofloxacin 3-5 drops BID x10 days
 Ciprodex 3-5 drops BID x10 days

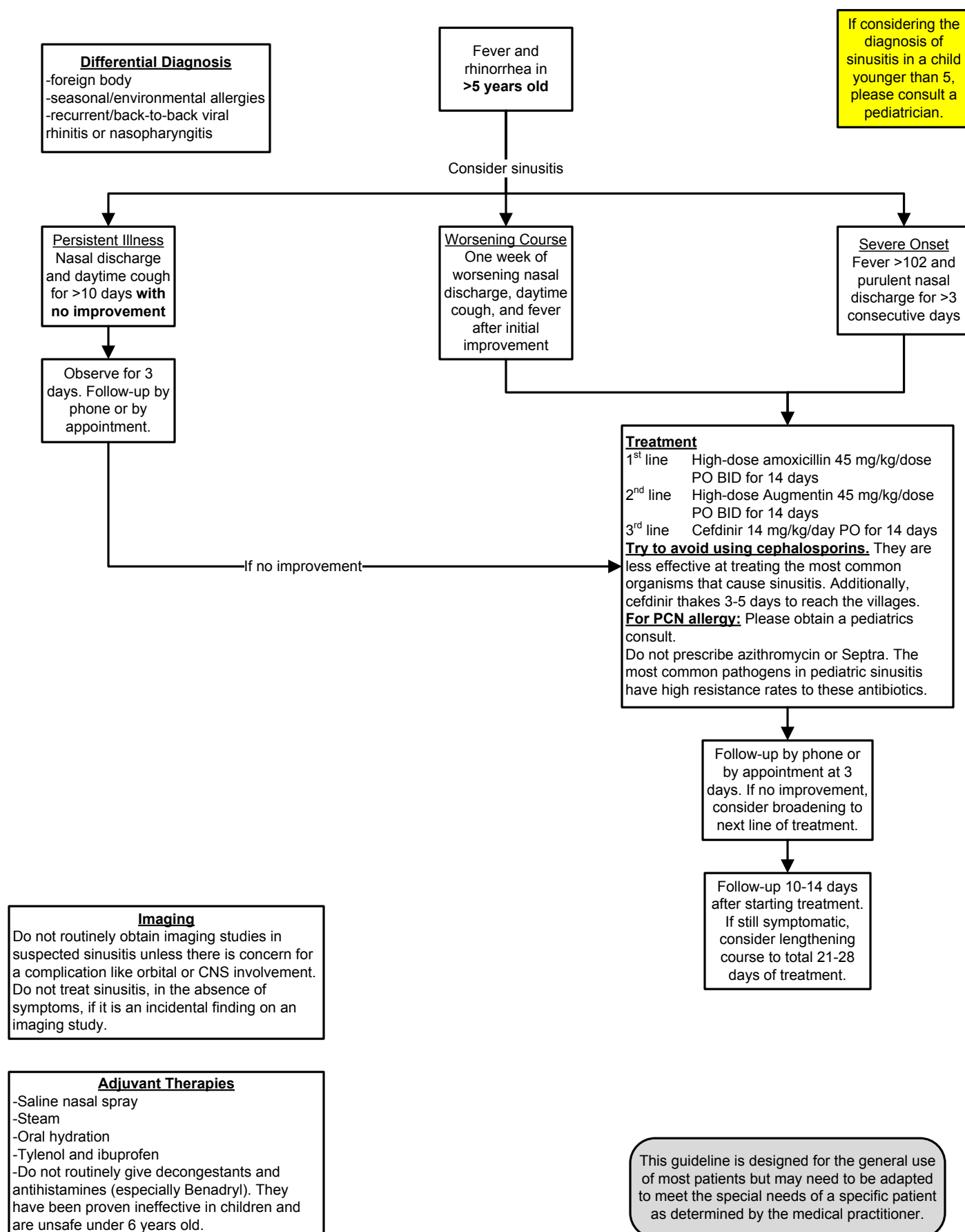
This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

When to Refer to ENT

- 3 episodes of AOM in 6 months
- 4 episodes of AOM in 12 months
- OME or otorrhea for ≥3 months
- Hearing loss >20 dB

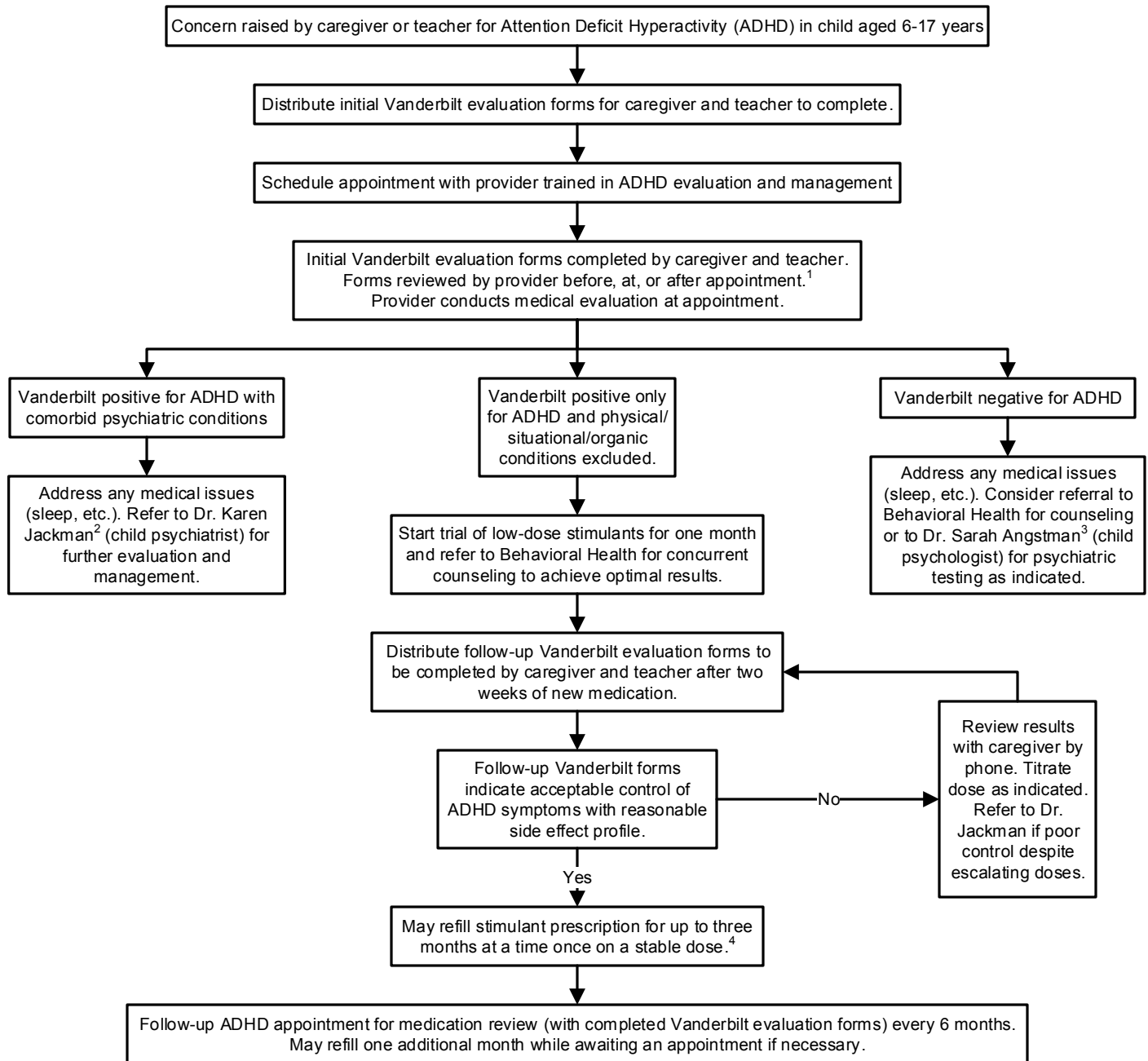
Sinusitis > 5 Years

MSEC Approved 4/8/15



Attention Deficit Hyperactivity Disorder in Children

MSEC approved 07/12/17



1. Scan completed Vanderbilt forms into MultiMedia Manager under "Continuity of Care."

2. Use "Refer to Peds Psychiatry Internal" order. Dr. Jackman may be contacted at (907) 230-3765 or jackman@alaska.net.

Her case manager is Patricia Sipary at ext 6466.

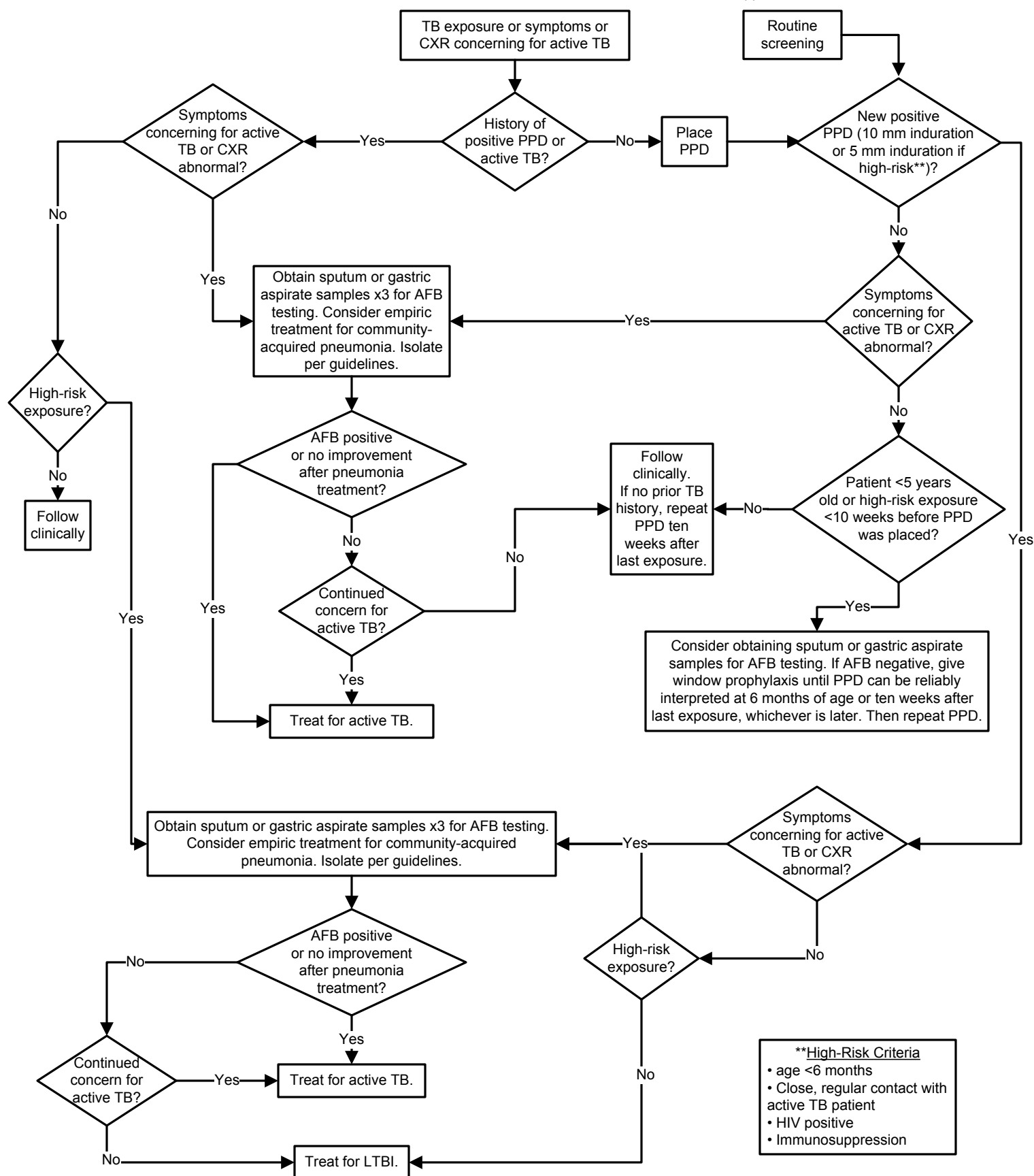
3. Use "Refer to Other External" order and send a message to the case manager to process the referral. Dr. Angstman may be contacted at (907) 545-5330.

4. Write three separate 30 day prescriptions. In the Special Instructions box of the two additional prescriptions, enter the earliest date the prescription may be filled (e.g. "Fill on/after 2/1" and "Fill on/after 3/1"). Bring the two additional prescriptions to case manager to be held until refill is requested by caregiver.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

TB Evaluation & Treatment – Pediatric

MSEC Approved 9/14/16

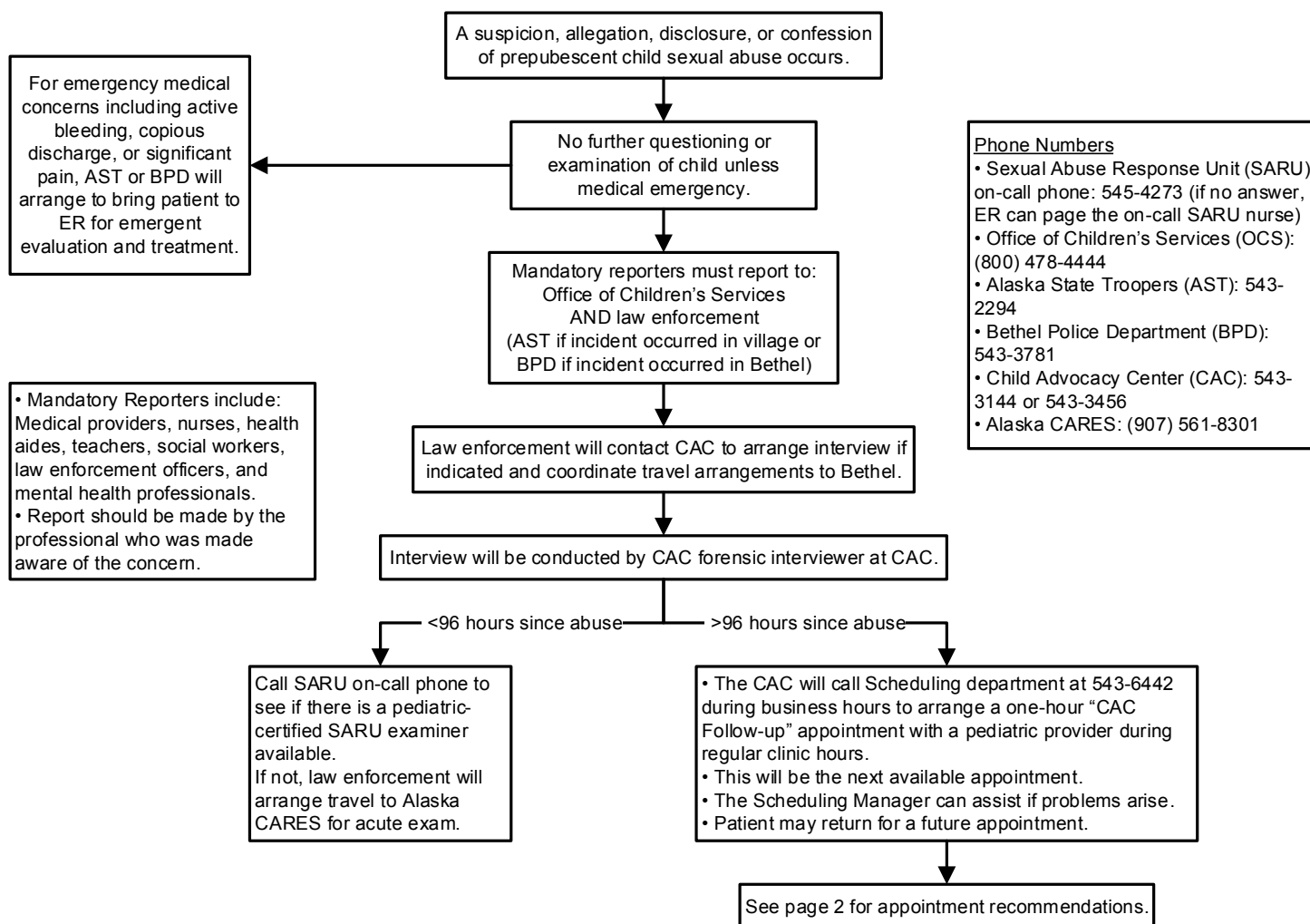


Abbreviations: TB- tuberculosis; CXR- chest X-ray; PPD- purified protein derivative; AFB- acid-fast bacilli; HIV- human immunodeficiency virus

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Suspected Prepubescent Child Sexual Abuse Procedure, p.1

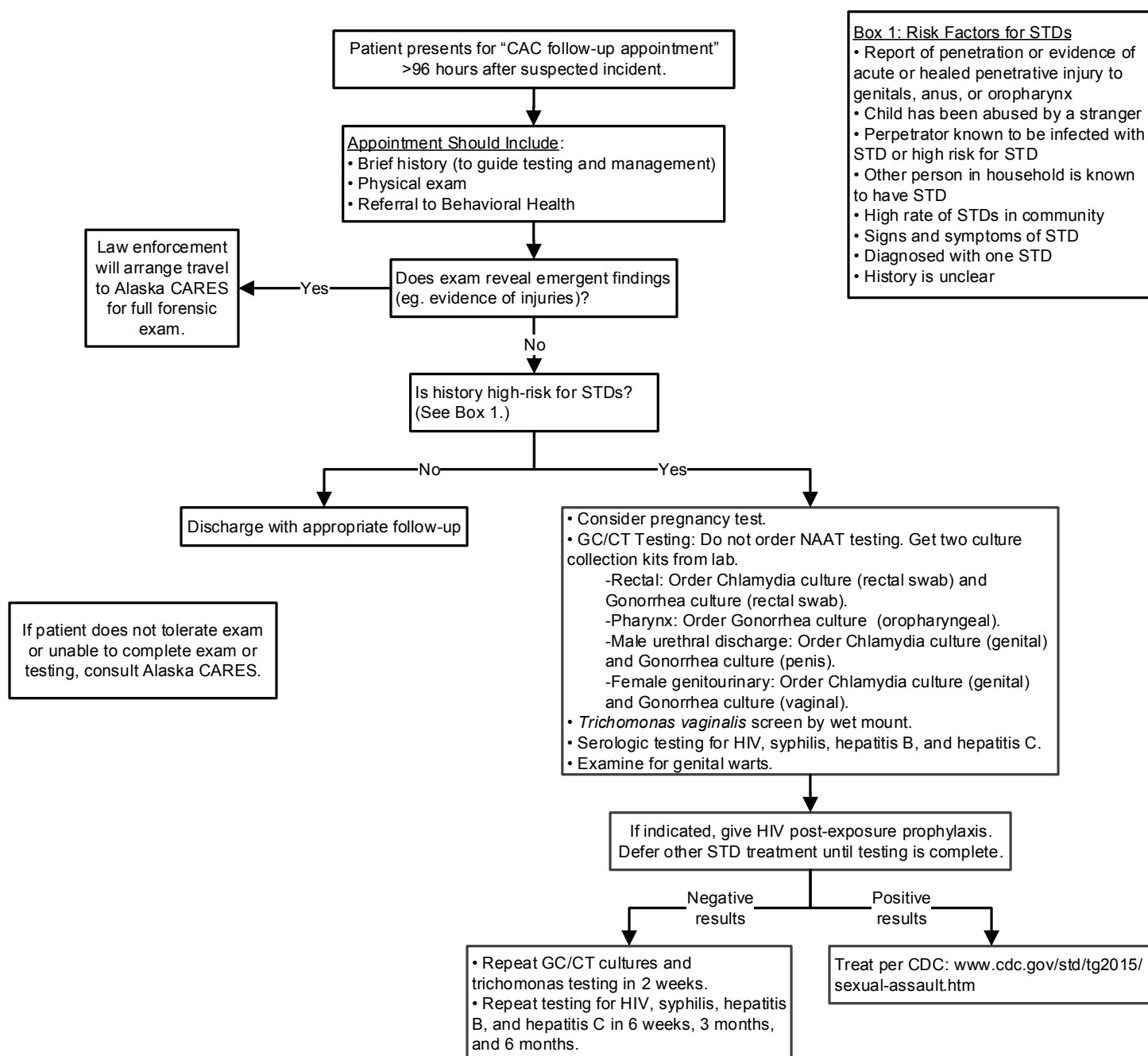
MSEC Approved 9/21/17



This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Suspected Prepubescent Child Sexual Abuse Procedure, p.2

MSEC Approved 9/21/17



This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Adapted from the National Protocol for Sexual Abuse Medical Forensic Examinations – Pediatric.
See Kidsta.org for more details.

CLINICAL
GUIDELINES
2017
rev. 10-09-17

Pediatric Neonatal Guidelines

Newborn GBS & Infection Evaluation and Treatment.	48
Hip Dysplasia – Infant.	49
Jaundice – Neonatal Evaluation & Treatment	50

Newborn GBS & Infection Evaluation and Treatment

MSEC approved 09/21/17

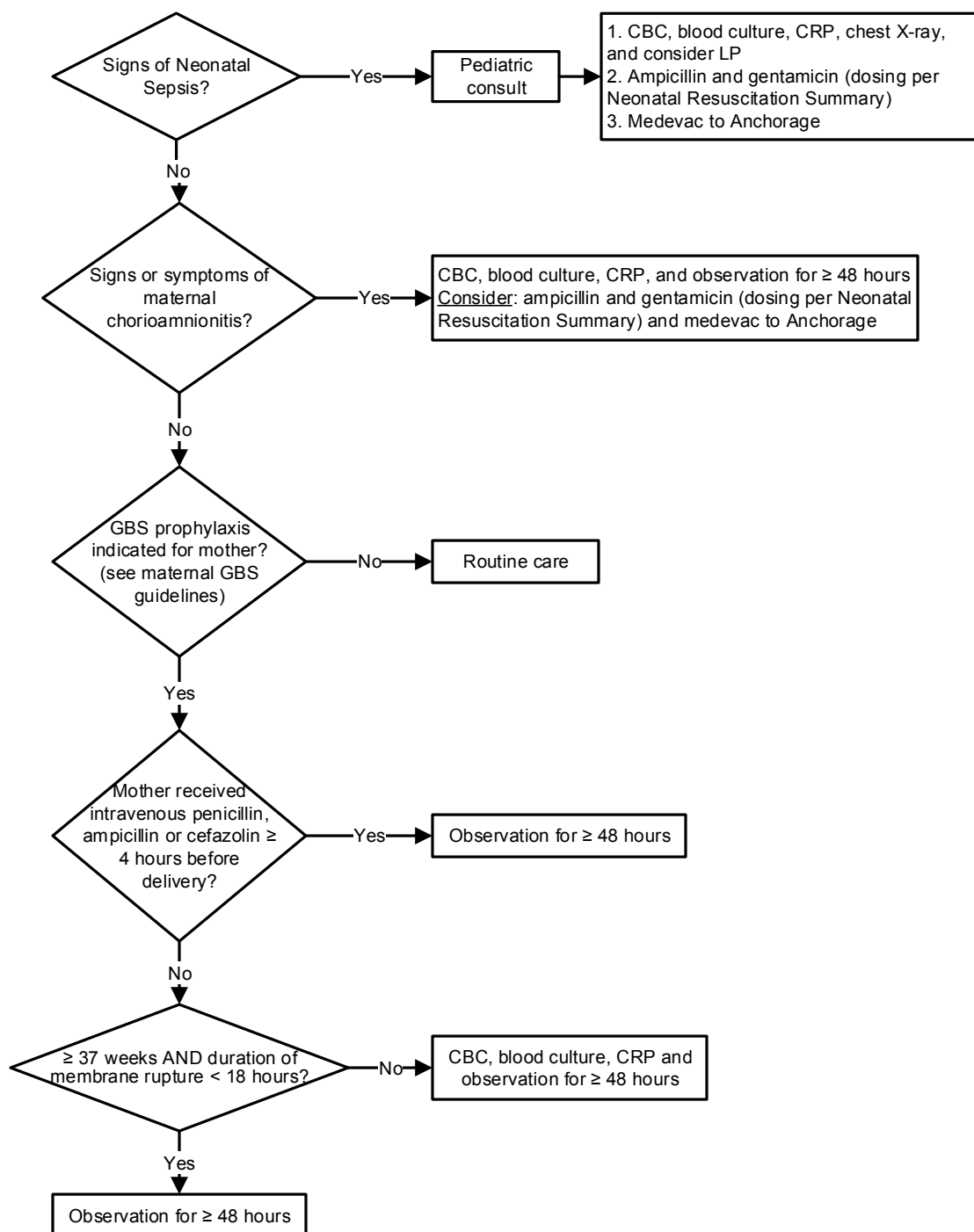
Signs of Neonatal Sepsis

- Temp ≥ 100.4
- Irritability
- Poor Feeding
- Hypoglycemia
- Hypothermia
- Tachypnea
- Tachycardia
- "not acting right"

Intrapartum Maternal GBS Risk Factors

- Chorioamnionitis
- Previous infant with invasive GBS disease
- GBS during current pregnancy
- GBS status unknown
- Labor at < 37 weeks gestation
- Rupture of membranes ≥ 18 hours
- Intrapartum temperature > 100.4
- GBS bacteriuria

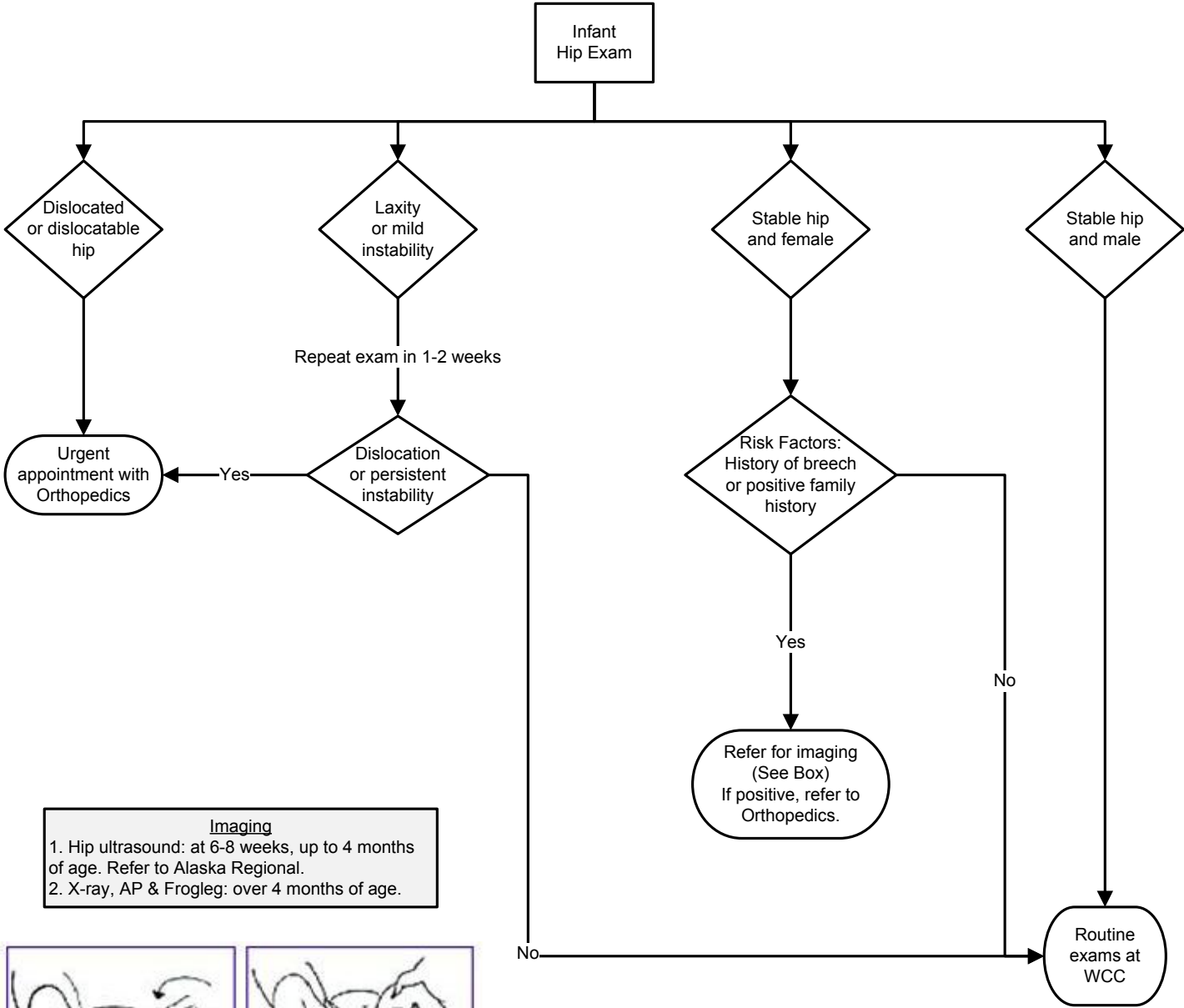
Note: If mother receives "inadequate prophylaxis" (eg. clindamycin, vancomycin, or erythromycin) for GBS status, provider may consider a limited work up of the neonate



This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner.

Hip Dysplasia – Infant

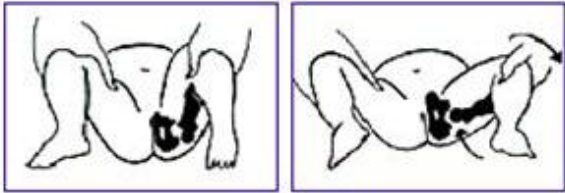
MSEC approved 04/18/15



Imaging
1. Hip ultrasound: at 6-8 weeks, up to 4 months of age. Refer to Alaska Regional.
2. X-ray, AP & Frogleg: over 4 months of age.



Barlow Test



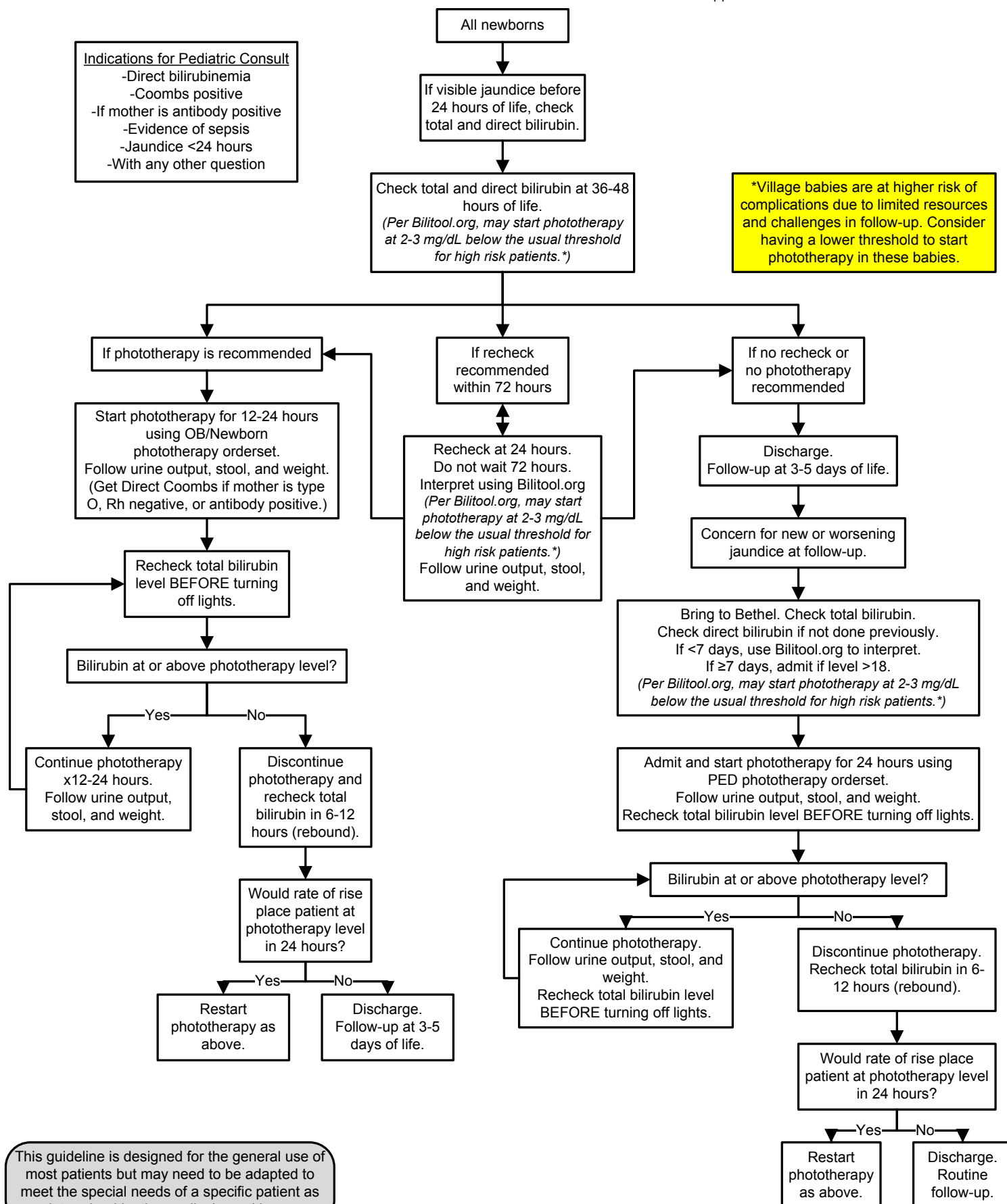
Ortolani Test

The Barlow test is an attempt to dislocate the hip. If positive, you will feel the hip sublux or dislocate.
The Ortolani test is the maneuver to reduce a dislocated hip. If positive, you will feel a clunk.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Jaundice – Neonatal Evaluation & Treatment

MSEC approved 04/08/15



This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

CLINICAL
GUIDELINES
2017
rev. 10-09-17

Pediatric Protocols/Reference

Acute Concussion Evaluation (Ace) ED Version 52–53

Acute Concussion Evaluation (ACE) OP Version. 54–55

ASAA Healthcare Provider Release and Return to Play Protocol . 56

Acute Concussion Evaluation (Ace) ED Version

A. Injury Characteristics Date/Time of Injury _____ Reporter: Patient Parent Spouse Other

1. Injury Description _____

- 1a. Is there evidence of a forcible blow to the head (direct or indirect)? Yes No Unknown
- 1b. Is there evidence of intracranial injury or skull fracture? Yes No Unknown
- 1c. Location of Impact: Frontal Lft Temporal Rt Temporal Lft Parietal Rt Parietal Occipital Neck Indirect Force
2. **Cause:** MVC Pedestrian-MVC Fall Assault Sports (specify) _____ Other _____
3. **Amnesia Before (Retrograde)** Are there any events just BEFORE the injury that you/ person has no memory of (even brief)? Yes No Duration _____
4. **Amnesia After (Anterograde)** Are there any events just AFTER the injury that you/ person has no memory of (even brief)? Yes No Duration _____
5. **Loss of Consciousness:** Did you/ person lose consciousness? Yes No Duration _____
6. **EARLY SIGNS:** Appears dazed or stunned Is confused about events Answers questions slowly Repeats Questions Forgetful (recent info)
7. **Seizures:** Were seizures observed? No Yes Detail _____

B. Symptom Check List* Since the injury, has the person experienced any of these symptoms any more than usual today or in the past day?
Indicate presence of each symptom (0=No, 1=Yes). *Lovell & Collins, 1998 JHTR

PHYSICAL (10)		COGNITIVE (4)		SLEEP (4)	
Headache	0 1	Feeling mentally foggy	0 1	Drowsiness	0 1
Nausea	0 1	Feeling slowed down	0 1	Sleeping less than usual	0 1 N/A
Vomiting	0 1	Difficulty concentrating	0 1	Sleeping more than usual	0 1 N/A
Balance problems	0 1	Difficulty remembering	0 1	Trouble falling asleep	0 1 N/A
Dizziness	0 1	COGNITIVE Total (0-4) _____		SLEEP Total (0-4) _____	
Visual problems	0 1	EMOTIONAL (4)			
Fatigue	0 1	Irritability	0 1		
Sensitivity to light	0 1	Sadness	0 1		
Sensitivity to noise	0 1	More emotional	0 1		
Numbness/Tingling	0 1	Nervousness	0 1		
PHYSICAL Total (0-10) _____		EMOTIONAL Total (0-4) _____			
(Add Physical, Cognitive, Emotion, Sleep totals)					
Total Symptom Score (0-22)					

Other Observations

Patient Participation: Full Partial None

Reason for Partial/None: Young Age Confused Inattentive Low arousal Emotional Upset In Pain Other _____

C. Concussion History: Previous# 0 1 2 3 4 5 Date(s) _____

Headache History: Prior treatment for headache N Y Details _____

D. Diagnosis (ICD): Concussion w/o LOC 850.0 Concussion w/ LOC 850.1 Concussion (Unspecified) 850.9 Other (854) _____
 No diagnosis

E. Follow-Up Action Plan ☒ Referral to PCP for Office Monitoring MD Name _____
 Neuropsychological Testing (recommended for Return to Sport decisions and academic/ behavioral management)
 Physician: Neurosurgery Neurology Sports Medicine Physiatry Psychiatry
 Other _____

ACE-ED Completed by: _____ MD RN NP DO

A concussion is an injury to the brain as a result of a force or jolt applied directly or indirectly to the head, which produces a range of possible symptoms, and may or may not involve a loss of consciousness. It is a complex pathophysiologic process affecting the brain, induced by traumatic biomechanical forces secondary to direct or indirect forces to the head. Disturbance of brain function is related to neurometabolic dysfunction, rather than structural injury, and is typically associated with normal structural neuroimaging findings (i.e., CT scan, MRI). Concussion may or may not involve a loss of consciousness (LOC). Concussion results in a constellation of cognitive, somatic, emotional and sleep-related symptoms. Duration of symptoms are variable and may last for as short as several minutes and last as long as several days, weeks, months or even longer in some cases.

ACE ED Instructions

A. Injury Characteristics

1. **Injury Description:** Ask for **description of events** resulting in the injury; how the injury occurred, type of force, location on head.
2. **Cause:** Indicate the cause of injury or write in Other cause.
- 3/4. **Amnesia:** Determine whether child was not registering memories (amnesia) – **before** (retrograde) and **after** (anterograde) injury. Estimate length of time for each (Retrograde amnesia “What is the last thing you remember before your injury?” Anterograde amnesia “What is the first thing you remember after your injury?”)
5. **Loss of consciousness (LOC)** - If occurs, determine length of LOC.
6. **Early signs observed by others.** Ask the individuals who know the patient (parent, spouse, friend, etc.) about signs of the concussion/ mTBI that they may have observed. Signs are typically observed early after the injury.
7. **Seizures:** Inquire whether **seizures** were observed or not.

B. Symptom Check List:

- Ask patient (and/ or parent, if child) to report presence of the **4 categories** of symptoms since injury. It is important to assess all listed symptoms as different parts of the brain control different functions. One or all symptoms may be present depending upon mechanisms of injury. If the symptom is not present, circle “0” on the scale. Circle “1” if present.
- Note: Most sleep symptoms are only applicable after a night has passed since the injury. If not applicable, circle N/A. Drowsiness may be present on the day of injury.
- Since symptoms can be present premorbidly/ at baseline (e.g., inattention, headaches, sleep, sadness), it is important to **assess change** from its typical presentation. For **any symptom** - if Patient/ Parent indicates “I/ He usually has that problem/symptom” – Ask “Are you/ they experiencing this symptom more than usual or in a different manner than usual?” If “Yes” circle “1”.

Scoring: Sum total **number** of symptoms present per area, and sum all 4 areas into Total Symptom Score. (Note: Most sleep symptoms are only applicable after a night has passed since the injury. Drowsiness may be present on the day of injury.) If symptoms are new and present, there is no lower limit symptom score. Any score > 0 indicates **positive symptom** history.

- **General Impression:** Ask how different the person is acting than usual. Circle 0 (No difference) to 6 (Major) to rate degree.
- **Patient Participation:** Indicate the extent to which the patient is able to participate in the evaluation and, if less than fully, give reason for Partial or No participation.

C. Concussion history: Assess the number and date(s) of prior concussions.⁴⁻⁸ History of prior concussions, especially recent (within past several weeks or months) would suggest the need for more conservative decision-making regarding Return to Play, and general post-injury management.

Headache history: Assess personal history of diagnosis/treatment for headaches. Recent research indicates headache (migraine in particular) can result in protracted recovery from concussion.⁸⁻¹¹

D. Diagnosis: Assign the most appropriate diagnosis given the following:

850.0 (Concussion, with no loss of consciousness) – Positive Injury Description (A1), i.e., forcible direct/ indirect blow to the head; plus evidence of active symptoms (B) of any type and number related to the trauma; no evidence of LOC (A5), skull fracture, or other intracranial injury.

850.1 (Concussion, with brief loss of consciousness < 1 hour) - Positive Injury Description (A1), i.e., forcible direct/ indirect blow to the head; plus evidence of active symptoms (B) of any type and number related to the trauma; positive evidence of LOC (A5); no skull fracture, or other intracranial injury.

850.9 (Concussion, unspecified) - Positive Injury Description (A1), i.e., forcible direct/ indirect blow to the head; plus evidence of active symptoms (B) of any type and number related to the trauma; unclear/unknown injury details; unclear evidence of LOC (A5), no skull fracture, or other intracranial injury.

NOTE: If there is evidence of skull fracture of structural intracranial injury to the brain, consider 854 (Intracranial injury of other and unspecified nature; 854.0 Without mention of open intracranial wound, 854.1 With open intracranial wound). Avoid using nonspecific Head injury NOS (959.01) whenever possible.

E. Follow-Up Action: Determine a plan of action for follow-up of symptomatic patients. Serial evaluation of the concussion is critical as symptoms may resolve, worsen, or ebb and flow depending upon a variety of factors (e.g., cognitive/ physical exertion, comorbidities). Referral to a specialist can be particularly valuable to help manage certain aspects of the patient's condition.

(a) Patient monitoring in the primary care physician office.

(b) Referral to a specialist: particularly valuable to help manage certain aspects of the patient's condition.

- **Neuropsychological Testing** is particularly relevant for cognitive and/or behavioral dysfunction affecting school, home or work activities, for purpose of treatment planning. Testing is also recommended when a patient may be returning to sports or other at-risk activities.
- **Physician Evaluation** is particularly relevant for medical evaluation and management of concussion. Also, critical for evaluation and management of focal neurologic, sensory, vestibular, and motor concerns. May be useful for medication management (e.g., headaches, sleep disturbance, depression) if post-concussive problems persist.

Acute Concussion Evaluation (ACE) OP Version

A. Injury Characteristics Date/Time of Injury _____ Reporter: ☐ Patient ☐ Parent ☐ Spouse ☐ Other _____

1. Injury Description _____

1a. Is there evidence of a forcible blow to the head (direct or indirect)? ☐ Yes ☐ No ☐ Unknown
 1b. Is there evidence of intracranial injury or skull fracture? ☐ Yes ☐ No ☐ Unknown
 1c. Location of Impact: ☐ Frontal ☐ Lft Temporal ☐ Rt Temporal ☐ Lft Parietal ☐ Rt Parietal ☐ Occipital ☐ Neck ☐ Indirect Force
2. Cause: ☐ MVC ☐ Pedestrian-MVC ☐ Fall ☐ Assault ☐ Sports (specify) _____ Other _____
3. Amnesia Before (Retrograde) Are there any events just BEFORE the injury that you/ person has no memory of (even brief)? ☐ Yes ☐ No Duration _____
4. Amnesia After (Anterograde) Are there any events just AFTER the injury that you/ person has no memory of (even brief)? ☐ Yes ☐ No Duration _____
5. Loss of Consciousness: Did you/ person lose consciousness? ☐ Yes ☐ No Duration _____
6. EARLY SIGNS: ☐ Appears dazed or stunned ☐ Is confused about events ☐ Answers questions slowly ☐ Repeats Questions ☐ Forgetful (recent info)
7. Seizures: Were seizures observed? No ☐ Yes ☐ Detail _____

B. Symptom Check List* Since the injury, has the person experienced any of these symptoms any more than usual today or in the past day?
 Indicate presence of each symptom (0=No, 1=Yes). *Lovell & Collins, 1998 JHTR

PHYSICAL (10)		COGNITIVE (4)		SLEEP (4)	
Headache	0 1	Feeling mentally foggy	0 1	Drowsiness	0 1
Nausea	0 1	Feeling slowed down	0 1	Sleeping less than usual	0 1 N/A
Vomiting	0 1	Difficulty concentrating	0 1	Sleeping more than usual	0 1 N/A
Balance problems	0 1	Difficulty remembering	0 1	Trouble falling asleep	0 1 N/A
Dizziness	0 1	COGNITIVE Total (0-4) _____		SLEEP Total (0-4) _____	
Visual problems	0 1	EMOTIONAL (4)		<div>Exertion: Do these symptoms <u>worsen</u> with: Physical Activity __Yes __No __N/A Cognitive Activity __Yes __No __N/A Overall Rating: How <u>different</u> is the person acting compared to his/her usual self? (circle) Normal 0 1 2 3 4 5 6 Very Different</div>	
Fatigue	0 1	Irritability	0 1		
Sensitivity to light	0 1	Sadness	0 1		
Sensitivity to noise	0 1	More emotional	0 1		
Numbness/Tingling	0 1	Nervousness	0 1		
PHYSICAL Total (0-10) _____		EMOTIONAL Total (0-4) _____			
(Add Physical, Cognitive, Emotion, Sleep totals) Total Symptom Score (0-22) _____					

C. Risk Factors for Protracted Recovery (check all that apply)

Concussion History? Y <input type="checkbox"/> N <input type="checkbox"/>	✓	Headache History? Y <input type="checkbox"/> N <input type="checkbox"/>	✓	Developmental History	✓	Psychiatric History
Previous # 1 2 3 4 5 6+		Prior treatment for headache		Learning disabilities		Anxiety
Longest symptom duration Days__ Weeks__ Months__ Years__		History of migraine headache __ Personal __ Family _____		Attention-Deficit/ Hyperactivity Disorder		Depression
If multiple concussions, less force caused reinjury? Yes__ No__				Other developmental disorder _____		Sleep disorder
						Other psychiatric disorder _____

List other comorbid medical disorders or medication usage (e.g., hypothyroid, seizures) _____

D. RED FLAGS for acute emergency management: Refer to the emergency department with sudden onset of any of the following:

* Headaches that worsen	* Looks very drowsy/ can't be awakened	* Can't recognize people or places	* Neck pain
* Seizures	* Repeated vomiting	* Increasing confusion or irritability	* Unusual behavioral change
* Focal neurologic signs	* Slurred speech	* Weakness or numbness in arms/legs	* Change in state of consciousness

E. Diagnosis (ICD): ☐ Concussion w/o LOC 850.0 ☐ Concussion w/ LOC 850.1 ☐ Concussion (Unspecified) 850.9 ☐ Other (854) _____
☐ No diagnosis

F. Follow-Up Action Plan Complete **ACE Care Plan** and provide copy to patient/family.

☐ No Follow-Up Needed

☐ Physician/Clinician Office Monitoring: Date of next follow-up _____

☐ Referral:

☐ Neuropsychological Testing

☐ Physician: Neurosurgery _____ Neurology _____ Sports Medicine _____ Physiatrist _____ Psychiatrist _____ Other _____

☐ Emergency Department

A concussion (or mild traumatic brain injury (MTBI)) is a complex pathophysiologic process affecting the brain, induced by traumatic biomechanical forces secondary to direct or indirect forces to the head. Disturbance of brain function is related to neurometabolic dysfunction, rather than structural injury, and is typically associated with normal structural neuroimaging findings (i.e., CT scan, MRI). Concussion may or may not involve a loss of consciousness (LOC). Concussion results in a constellation of physical, cognitive, emotional, and sleep-related symptoms. Symptoms may last from several minutes to days, weeks, months or even longer in some cases.

ACE Instructions

The ACE is intended to provide an evidence-based clinical protocol to conduct an initial evaluation and diagnosis of patients (both children and adults) with known or suspected MTBI. The research evidence documenting the importance of these components in the evaluation of an MTBI is provided in the reference list.

A. Injury Characteristics:

1. Obtain **description of the injury** – how injury occurred, type of force, location on the head or body (if force transmitted to head). Different biomechanics of injury may result in differential symptom patterns (e.g., occipital blow may result in visual changes, balance difficulties).
2. Indicate the **cause of injury**. Greater forces associated with the trauma are likely to result in more severe presentation of symptoms.
- 3/4. **Amnesia**: Amnesia is defined as the failure to form new memories. Determine whether amnesia has occurred and attempt to determine length of time of memory dysfunction – **before** (retrograde) and **after** (anterograde) injury. Even seconds to minutes of memory loss can be predictive of outcome. Recent research has indicated that amnesia may be up to 4-10 times more predictive of symptoms and cognitive deficits following concussion than is LOC (less than 1 minute).¹
5. **Loss of consciousness (LOC)** – If occurs, determine length of LOC.
6. **Early signs**. If present, ask the individuals who know the patient (parent, spouse, friend, etc) about specific signs of the concussion that may have been observed. These signs are typically observed early after the injury.
7. Inquire whether **seizures** were observed or not.

B. Symptom Checklist: ²

1. Ask patient (and/or parent, if child) to report presence of the four categories of symptoms since injury. It is important to assess all listed symptoms as different parts of the brain control different functions. One or all symptoms may be present depending upon mechanisms of injury.³ Record “1” for Yes or “0” for No for their presence or absence, respectively.
2. For all symptoms, indicate presence of symptoms as experienced within the past 24 hours. Since symptoms can be present pre-morbidly/at baseline (e.g., inattention, headaches, sleep, sadness), it is important to assess **change** from their usual presentation.
3. **Scoring**: Sum total **number** of symptoms present per area, and sum all four areas into Total Symptom Score (score range 0-22). (Note: most sleep symptoms are only applicable after a night has passed since the injury. Drowsiness may be present on the day of injury.) If symptoms are new and present, there is no lower limit symptom score. Any **score > 0** indicates **positive symptom history**.
4. **Exertion**: Inquire whether any symptoms worsen with physical (e.g., running, climbing stairs, bike riding) and/or cognitive (e.g., academic studies, multi-tasking at work, reading or other tasks requiring focused concentration) exertion. Clinicians should be aware that symptoms will typically worsen or re-emerge with exertion, indicating incomplete recovery. Over-exertion may protract recovery.
5. **Overall Rating**: Determine how different the person is acting from their usual self. Circle “0” (Normal) to “6” (Very Different).

C. Risk Factors for Protracted Recovery: Assess the following risk factors as possible complicating factors in the recovery process.

1. **Concussion history**: Assess the number and date(s) of prior concussions, the duration of symptoms for each injury, and whether less biomechanical force resulted in re-injury. Research indicates that cognitive and symptom effects of concussion may be cumulative, especially if there is minimal duration of time between injuries and less biomechanical force results in subsequent concussion (which may indicate incomplete recovery from initial trauma).⁴⁻⁸
2. **Headache history**: Assess personal and/or family history of diagnosis/treatment for headaches. Research indicates headache (migraine in particular) can result in protracted recovery from concussion.⁸⁻¹¹
3. **Developmental history**: Assess history of learning disabilities, Attention-Deficit/Hyperactivity Disorder or other developmental disorders. Research indicates that there is the possibility of a longer period of recovery with these conditions.¹²
4. **Psychiatric history**: Assess for history of depression/mood disorder, anxiety, and/or sleep disorder.¹³⁻¹⁶

D. Red Flags: The patient should be carefully observed over the first 24-48 hours for these serious signs. Red flags are to be assessed as possible signs of deteriorating neurological functioning. Any positive report should prompt strong consideration of referral for emergency medical evaluation (e.g. CT Scan to rule out intracranial bleed or other structural pathology).¹⁷

E. Diagnosis: The following ICD diagnostic codes may be applicable.

850.0 (Concussion, with no loss of consciousness) – Positive injury description with evidence of forcible direct/ indirect blow to the head (A1a); plus evidence of active symptoms (B) of any type and number related to the trauma (Total Symptom Score >0); no evidence of LOC (A5), skull fracture or intracranial injury (A1b).

850.1 (Concussion, with brief loss of consciousness < 1 hour) – Positive injury description with evidence of forcible direct/ indirect blow to the head (A1a); plus evidence of active symptoms (B) of any type and number related to the trauma (Total Symptom Score >0); positive evidence of LOC (A5), skull fracture or intracranial injury (A1b).

850.9 (Concussion, unspecified) – Positive injury description with evidence of forcible direct/ indirect blow to the head (A1a); plus evidence of active symptoms (B) of any type and number related to the trauma (Total Symptom Score >0); unclear/unknown injury details; unclear evidence of LOC (A5), no skull fracture or intracranial injury.

Other Diagnoses – If the patient presents with a positive injury description and associated symptoms, but additional evidence of intracranial injury (A 1b) such as from neuroimaging, a moderate TBI and the diagnostic category of 854 (Intracranial injury) should be considered.

F. Follow-Up Action Plan: Develop a follow-up plan of action for symptomatic patients. The physician/clinician may decide to (1) monitor the patient in the office or (2) refer them to a specialist. Serial evaluation of the concussion is critical as symptoms may resolve, worsen, or ebb and flow depending upon many factors (e.g., cognitive/physical exertion, comorbidities). Referral to a specialist can be particularly valuable to help manage certain aspects of the patient's condition. (Physician/Clinician should also complete the ACE Care Plan included in this tool kit.)

1. **Physician/Clinician serial monitoring** – Particularly appropriate if number and severity of symptoms are steadily decreasing over time and/or fully resolve within 3-5 days. If steady reduction is not evident, referral to a specialist is warranted.
2. **Referral to a specialist** – Appropriate if symptom reduction is not evident in 3-5 days, or sooner if symptom profile is concerning in type/severity.
 - **Neuropsychological Testing** can provide valuable information to help assess a patient's brain function and impairment and assist with treatment planning, such as return to play decisions.
 - **Physician Evaluation** is particularly relevant for medical evaluation and management of concussion. It is also critical for evaluating and managing focal neurologic, sensory, vestibular, and motor concerns. It may be useful for medication management (e.g., headaches, sleep disturbance, depression) if post-concussive problems persist.

ASAA HEALTHCARE PROVIDER RELEASE AND RETURN TO PLAY PROTOCOL (RTP)

Student Name: _____

Sport: _____ School: _____ Birthdate: _____

Date of Injury: _____ Description: _____

IMPORTANT NOTE TO HEALTHCARE PROVIDER

Per AS 14.30.142, as amended, a student who has been removed from participation in a practice or game for suspicion of concussion may not return to play until the student has been evaluated and cleared for participation by an Athletic Trainer OR by a qualified person who verifies that he or she is currently trained in the evaluation and management of concussions.

"Qualified person" means either:

- 1) A health care provider licensed in Alaska, or exempt from licensure under Alaska law (AS 08.64.370(1), (2), or (4),
OR
- 2) a person acting at the direction and under the supervision of a physician licensed in Alaska, or exempt from licensure.

As interpreted by ASAA, Athletic Trainer means a Certified Athletic Trainer.

As interpreted by ASAA, "Trained" means that the provider:

- 1) Has completed the online CDC Concussion Course for Clinicians (www.preventingconcussions.org) in the last two years,
AND
- 2) Has **a)** completed 2 hours of CME in Sports Concussion Management in the last 2 years, or **b)** has completed a one-year Sports Medicine Fellowship, a Certificate of Added Qualifications in Sports Medicine, or a Residency in Neurology or Neurosurgery.

IF YOU DO NOT MEET THESE CRITERIA, PLEASE REFER THE STUDENT ATHLETE TO A HEALTHCARE PROVIDER WHO DOES

If an athlete is removed from participation in an activity because of a suspected concussion:

BUT is found **not to have a concussion**, the athlete's return to play should be determined by the athlete's medical provider in accordance with the provider's assessment of the athlete's condition and readiness to participate;

AND is **determined to have sustained a concussion**, the athlete's readiness to return to participation should be assessed in accordance with the Alaska School Activities Association's graduated Return to Play (RTP) protocol. All student athletes with a concussion must successfully complete an appropriate RTP Protocol that lasts a minimum of six days before resuming full athletic activity. The Return to Play protocol recommended by ASAA's Sports Medicine Advisory Committee is described below.

Students should begin with a period of complete rest in which they avoid cognitive and physical exertion. As symptoms diminish, and the athlete feels able, he/she can begin trials of cognitive work, e.g. reading, texting, computer, TV, school. The introduction of cognitive work should be in short increments which increase progressively in length and intensity so long as concussion symptoms do not recur or worsen. When several hours of cognitive work are well tolerated at home, then attendance at a half day of school is appropriate. When a full day of school is tolerated, then homework may be added. Academic accommodations may be necessary for student athletes as they return to school following a concussion. If cognitive work at any time provokes or exacerbates symptoms, then the work should be discontinued, additional cognitive work should be minimized until symptoms regress, and the student can attempt to advance cognitive work again on the following day.

Only when the concussion symptoms have been entirely absent for 24 hours, does Day 1 of the progressive return to physical activity begin. The **Return To Play Protocol** is to take place over a **minimum of six days, with at least 24 hours between each step**. The rate of progression through the steps in the program should be individualized. Factors which may slow the rate are young age, history of previous concussions, number/severity/duration of concussion symptoms, medical risk factors, and the concussion risk of the sports to which the athlete will return. Physical or cognitive activity that provokes recurrence of concussive symptoms will delay recovery and increase the risk of future concussion. Therefore, if symptoms recur at any step, then physical activity should stop until 24 hours after resolution of the symptoms, and then resume at the previous step.

PAGE 2 of 2 ASAA HEALTHCARE PROVIDER RELEASE AND RETURN TO PLAY PROTOCOL (RTP)

Student Name: _____

SYMPTOMATIC STAGE: Physical and Cognitive Rest; Then Incremental Cognitive Work, without Provoking Symptoms.	
Day 1	Begin when symptom free for 24 hours. 15 min of light aerobic activity: walk, swim, stationary bike. NO resistance training.
Day 2	30 min light-moderate aerobic activity: jog, more intense walk, swim, stationary bike. NO resistance training. START PE class at previous day's activity level. As RTP Protocol activity level increases, PE activity level remains 1 day behind
Day 3	30 min mod-heavy aerobic activity: run, swim, cycle, skate, Nordic ski. NO resistance training.
Day 4	30 min heavy aerobic activity: hard run, swim, cycle, skate, Nordic ski. 15 min Resistance Training: push-up, sit-up, weightlifting
Day 5	Return to Practice, Non-contact Limited Participation: Routine sport-specific drills
Day 6	Return to Full-Contact Practice
Day 7	Medically Eligible for Competition after completing RTP Protocol and is cleared by Healthcare Professional. ASAA Eligibility Criteria must be met before return to competition.

SECTION 1: THE CONCUSSED ATHLETE - to be completed by Healthcare Provider

- ☐ Student has sustained a concussion and is not yet ready to begin the Return to Play Protocol.
- ☐ Student is cleared to begin ASAA's **Return to Play Protocol** with any modifications noted below. *This clearance is no longer effective if student's symptoms return and persist.*
- ☐ **Student is entirely free of concussion symptoms and has completed the ASAA Return to Play Protocol as described above. The athlete is medically eligible to return to competition.**

Please note any additional modifications to ASAA's Return to Play Protocol below [attach more pages if needed]:

SECTION 2: THE NON-CONCUSSED ATHLETE - to be completed by Healthcare Provider

- ☐ Student has **NOT** sustained a concussion. The **Medical Diagnosis** which explains his/her symptoms is: This is **REQUIRED** if checking the first box: _____
- ☐ Student is cleared to return to full sports participation. Medical Dx: _____
- ☐ Student is cleared for limited participation with the following restrictions [attach more pages if needed]:

SECTION 3: HEALTHCARE PROFESSIONAL ATTESTATION

By signing this form, I attest that I am a **Qualified Healthcare provider authorized under AS 14.30.142** and that I meet the ASAA definition of "Currently Trained" in the evaluation and management of concussion, as explained above. I do hereby take responsibility for the daily monitoring and decision making in managing this student athlete's concussion.

Healthcare Provider Signature _____

HCP Printed Name _____

AK License Number _____

Date _____

SECTION 3: ATHLETE AND PARENT CONSENT

The **Return to Play Protocol** incorporates an internationally recognized process by which concussed athletes are returned to athletic participation as safely as possible. Participation in athletics is accompanied by the risk of injury, permanent disability, and death. Having recently sustained a concussion, an athlete is at more risk for another head injury with risk of permanent disability or death. By signing this form, the athlete and the parent indicate their understanding that the completion of the **Return to Play Protocol** is not a guarantee of safe return to athletic participation. The parent accepts the risk of additional injury in requesting and consenting to the athlete's return to athletic participation.

Student Athlete Signature _____

Date _____

Parent Signature _____

Date _____

Student Athlete Printed Name _____

Parent Printed Name _____

CLINICAL GUIDELINES 2017

rev. 10-09-17

OB Guidelines

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First Trimester Vaginal Bleeding: Ectopic Pregnancy Diagnosis & Treatment of Non-Viable Early Pregnancy, p.1

MSEC approved 07/12/17

1

Nomenclature

- **Viable** – A pregnancy is viable if it can potentially result in a liveborn baby.
- **Nonviable** – A pregnancy is nonviable if it cannot possibly result in a liveborn baby. Ectopic pregnancies and failed intrauterine pregnancies are nonviable
- **Intrauterine pregnancy of uncertain viability** – A woman is considered to have this if a transvaginal US shows an intrauterine gestational sac with no embryonic heartbeat and no findings of definite pregnancy failure
- **Pregnancy of unknown location** – A woman is considered to have this if she has a positive urine or serum pregnancy test and no intrauterine or ectopic pregnancy on transvaginal US

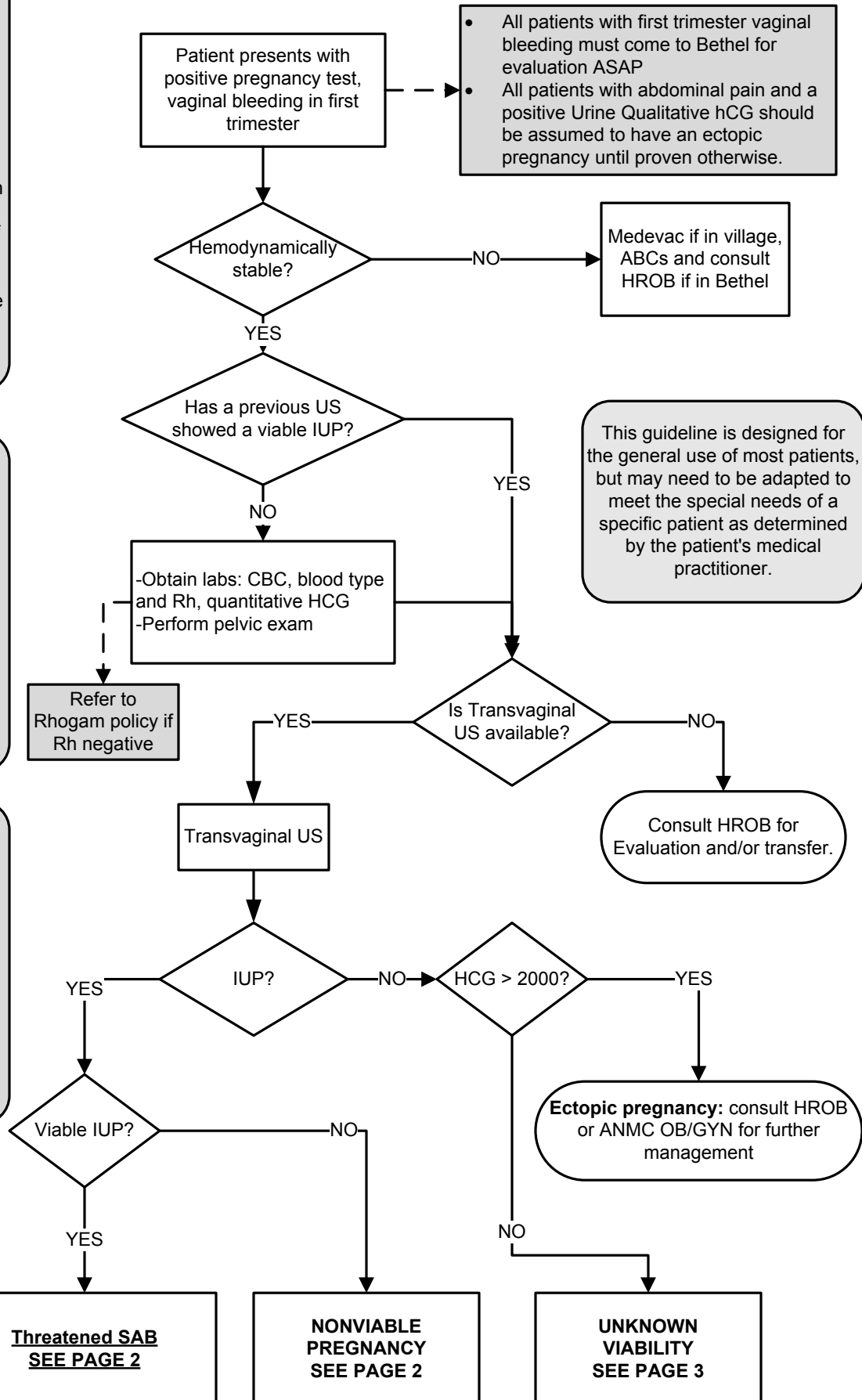
2

Findings diagnostic of Pregnancy Failure

- Crown-rump length of $\geq 7\text{mm}$ and no heartbeat
- Mean sac diameter of $\geq 25\text{mm}$ and no embryo
- Absence of embryo with heartbeat ≥ 14 days after an US that showed a gestational sac without a yolk sac
- Absence of embryo with a heartbeat ≥ 11 days after an US that showed a gestational sac with a yolk sac

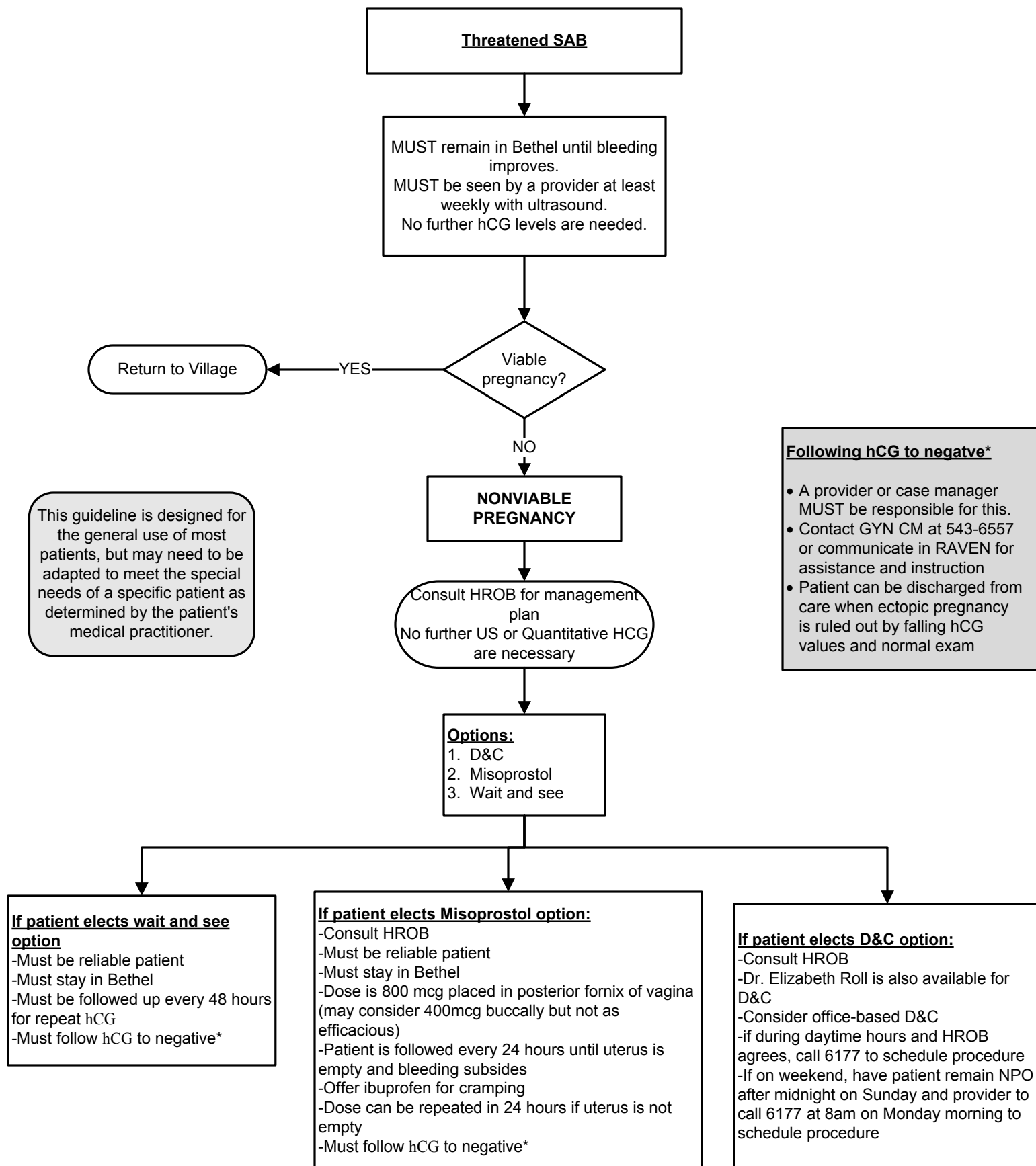
Comments

- In a woman with a positive urine or serum pregnancy test, an intrauterine fluid collection with rounded edges containing no yolk sac is most likely a gestational sac; it is certain to be a gestational sac if it contains a yolk sac or embryo.
- Transabdominal imaging without transvaginal scanning may be sufficient for diagnosing early pregnancy failure when an embryo whose crown-rump length is 15mm or more has no visible cardiac activity.



First Trimester Vaginal Bleeding: Ectopic Pregnancy Diagnosis & Treatment of Non-Viable Early Pregnancy, p.2

MSEC approved 07/12/17



First Trimester Vaginal Bleeding: Ectopic Pregnancy Diagnosis & Treatment of Non-Viable Early Pregnancy, p.3

MSEC approved 07/12/17

1

Nomenclature

- **Viable** – A pregnancy is viable if it can potentially result in a liveborn baby.
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- **Intrauterine pregnancy of uncertain viability** – A woman is considered to have this if a transvaginal US shows an intrauterine gestational sac with no embryonic heartbeat and no findings of definite pregnancy failure
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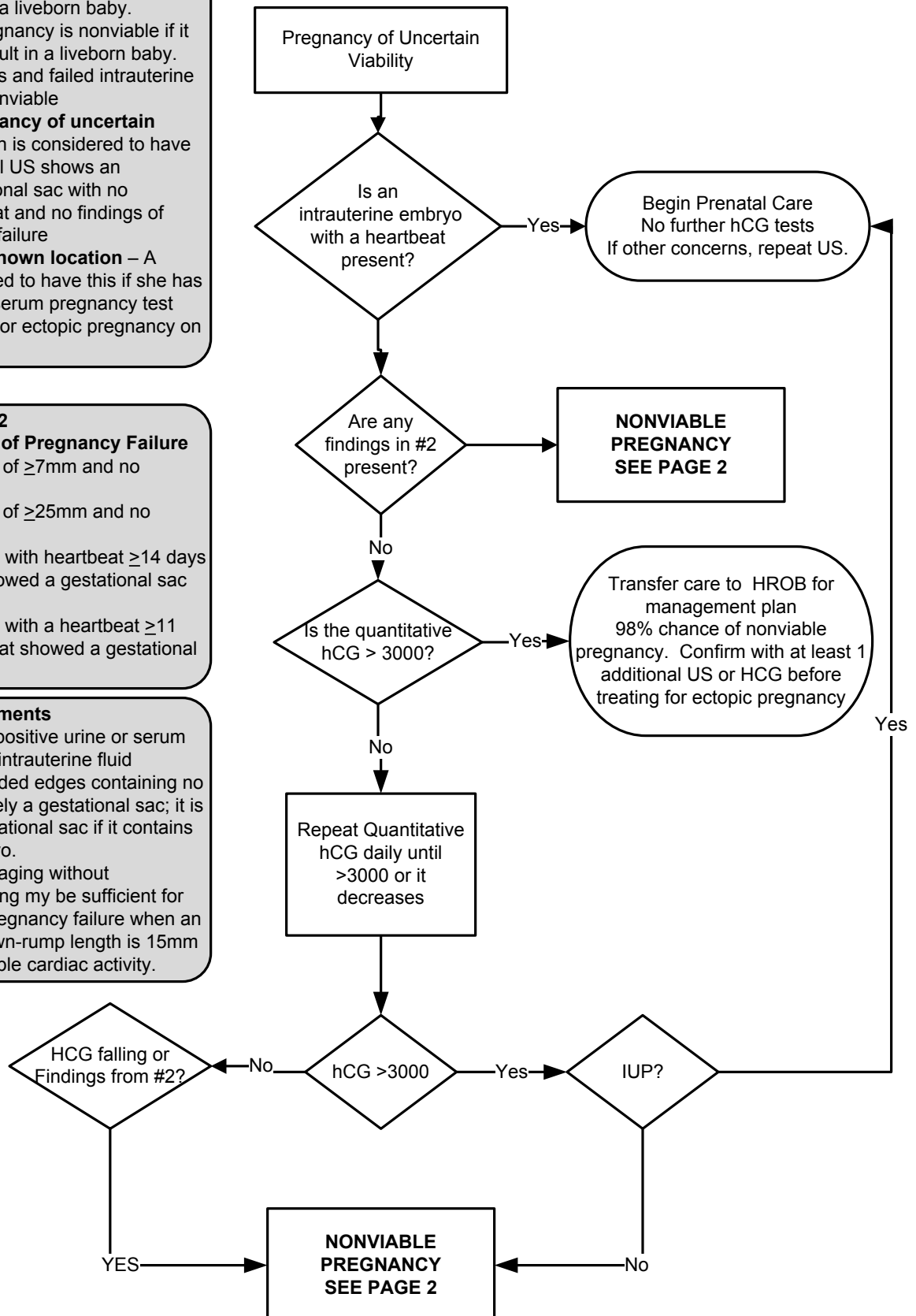
2

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Comments

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- Transabdominal imaging without transvaginal scanning may be sufficient for diagnosing early pregnancy failure when an embryo whose crown-rump length is 15mm or more has no visible cardiac activity.



Ectopic Pregnancy – Treatment

MSEC approved 07/12/17

D&C Prior to Methotrexate?

This is NOT necessary prior to treatment with Methotrexate (MTX) for a plateau or abnormally rising HCG level. MTX will treat an abnormal pregnancy in the uterus or any other location.

Typical side effects of MTX.

Less than 30% of patients will experience side effects from the medication and those are minor and self limited. These include: nausea, mouth ulcers GI cramps. Most patients have some lower abdominal pain on the 3-6th day after treatment. This is not a problem if ibuprofen or acetaminophen relieves the pain.

Contraindication to MTX.

Absolute contraindications

Breast Feeding
Overt or Laboratory evidence of immunodeficiency
Alcoholism, alcoholic liver disease, or other chronic liver disease
Preexisting blood dyscrasias, such as bone marrow hypoplasia, leukopenia, thrombocytopenia or significant anemia
Known sensitivity to MTX
Active pulmonary disease
Peptic ulcer disease
Hepatic, renal or hematologic dysfunction

Relative contraindications

Gestational sac larger than 3.5cm
Embryonic cardiac motion

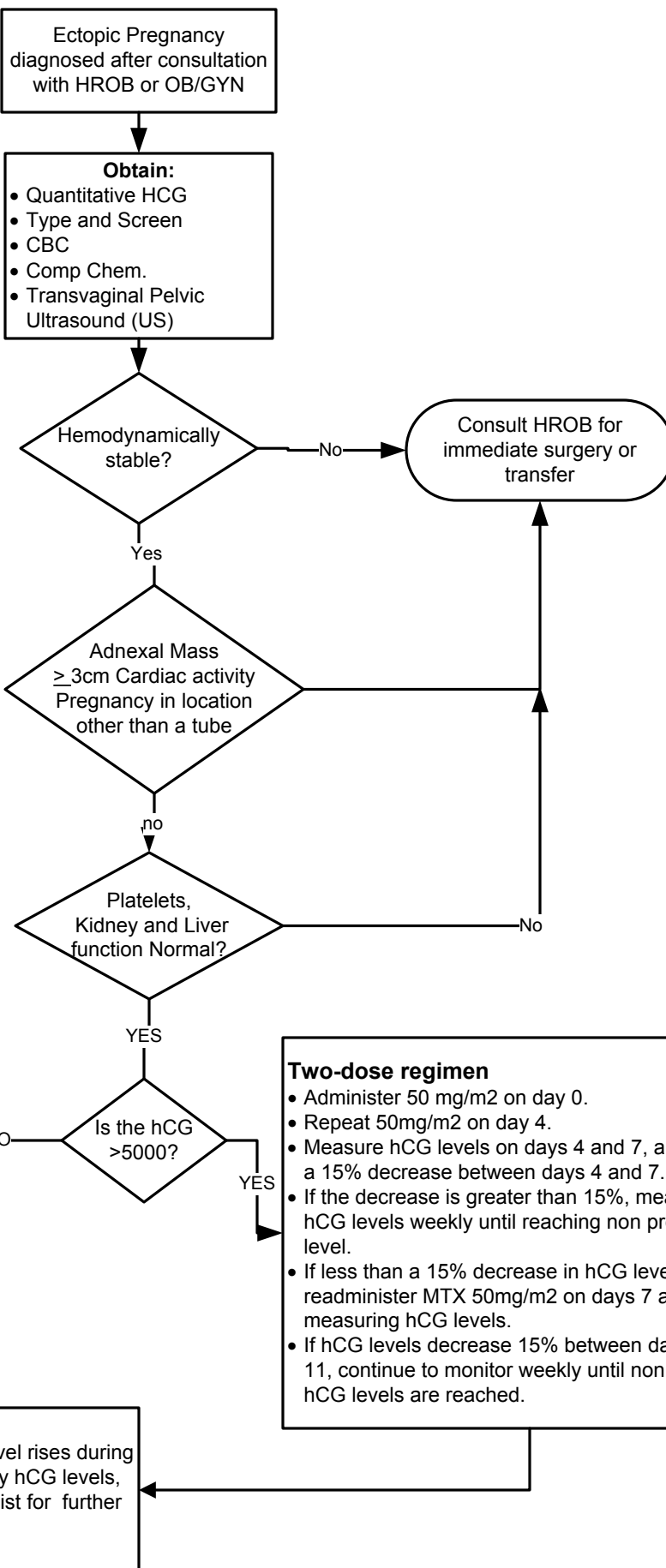
Single-dose regimen

- Single dose MTX 50mg/m² IM day 1
- Measure hCG level on post treatment days 4 and 7
- Check for 15% hCG decrease between days 4 and 7
- Then measure hCG level weekly until reaching the nonpregnant level
- If results are less than the expected 15% decrease, readminister MTX 50mg/m² and repeat hCG measurement on days 4 and 7 after second dose.

Two-dose regimen

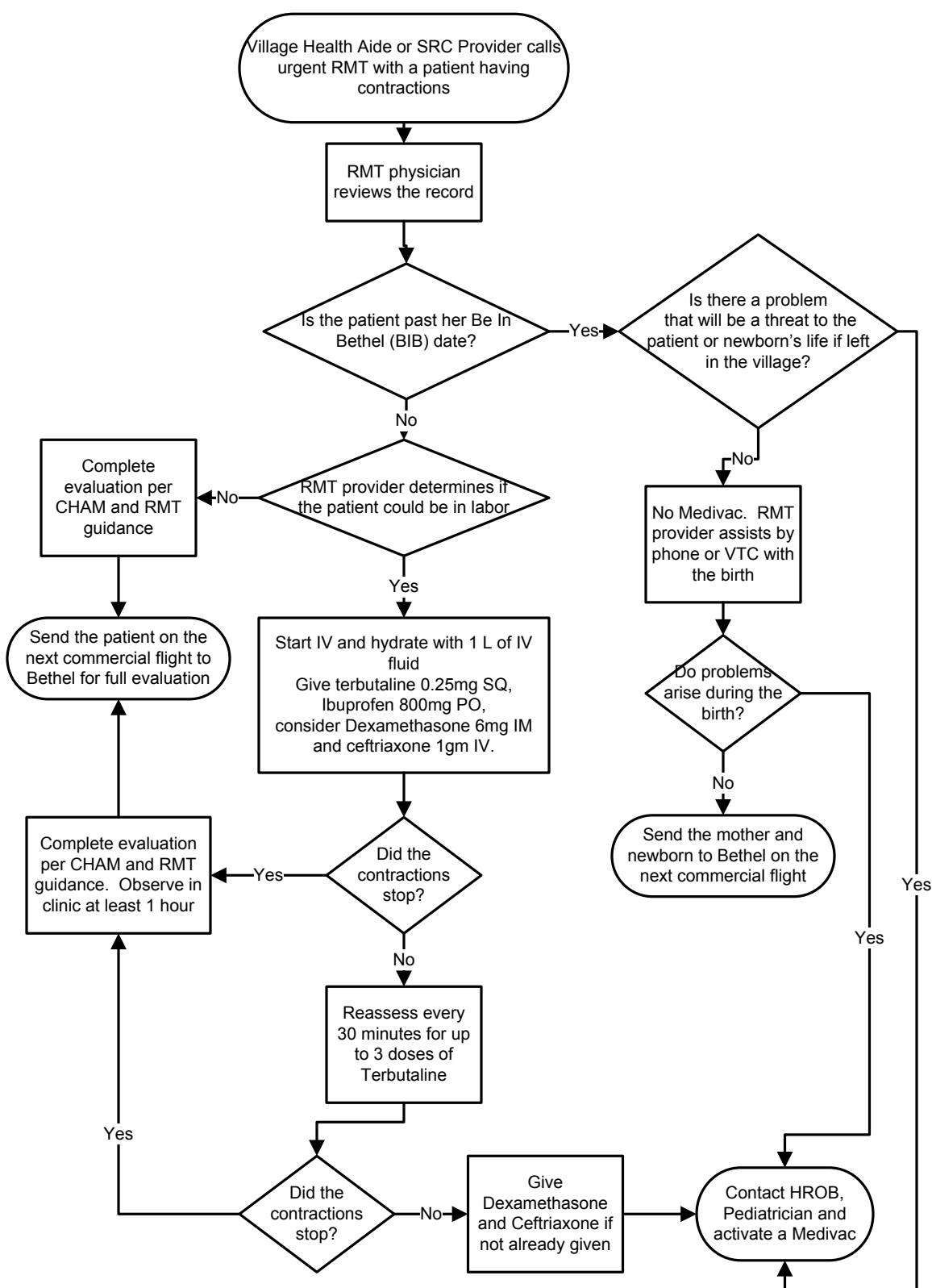
- Administer 50 mg/m² on day 0.
- Repeat 50mg/m² on day 4.
- Measure hCG levels on days 4 and 7, and expect a 15% decrease between days 4 and 7.
- If the decrease is greater than 15%, measure hCG levels weekly until reaching non pregnant level.
- If less than a 15% decrease in hCG levels, readminister MTX 50mg/m² on days 7 and 11, measuring hCG levels.
- If hCG levels decrease 15% between days 7 and 11, continue to monitor weekly until non pregnant hCG levels are reached.

If at any time the hCG level rises during the monitoring of weekly hCG levels, consult a GYN Oncologist for further treatment.



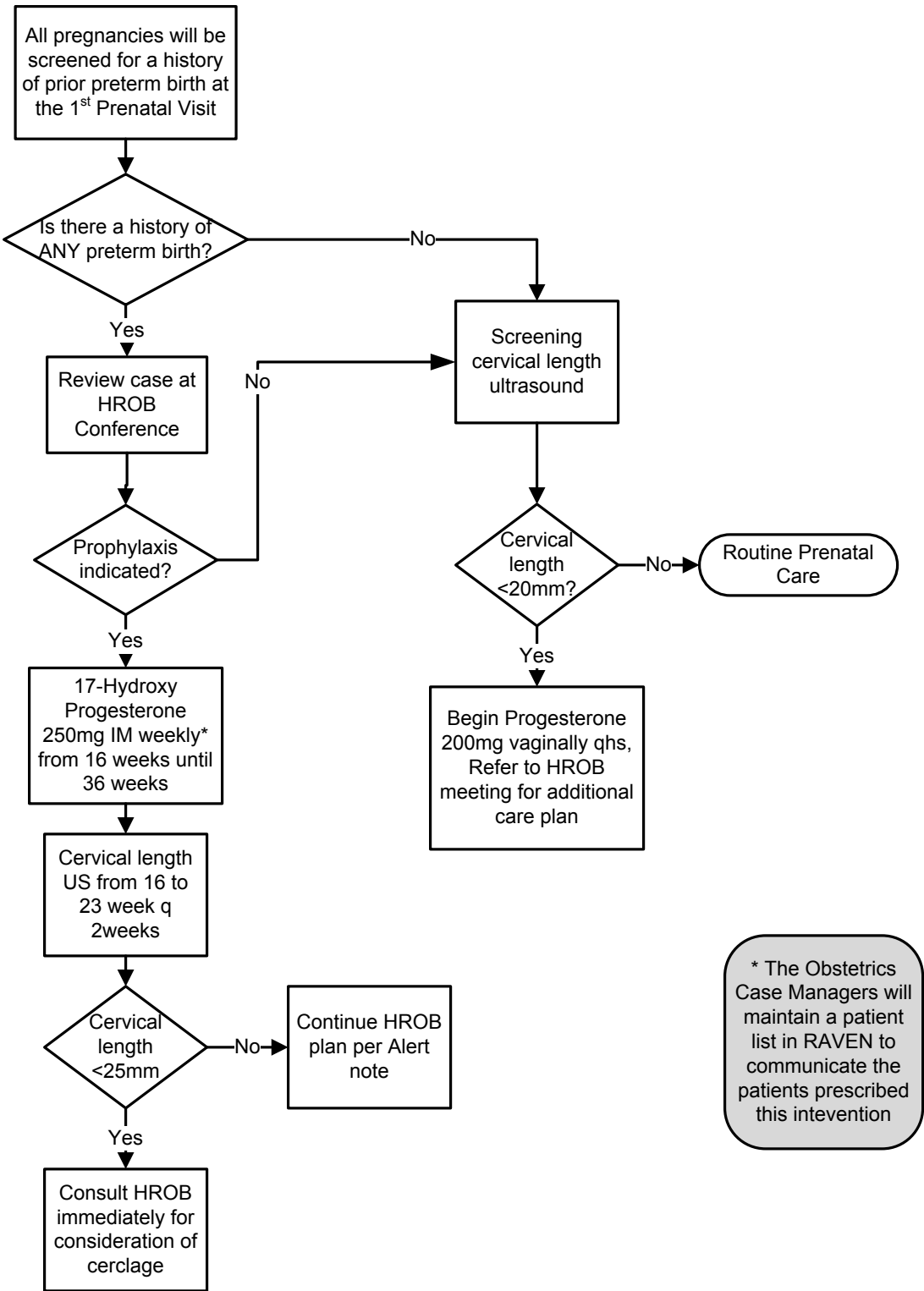
Labor Patient – Village

MSEC approved 12/14/16



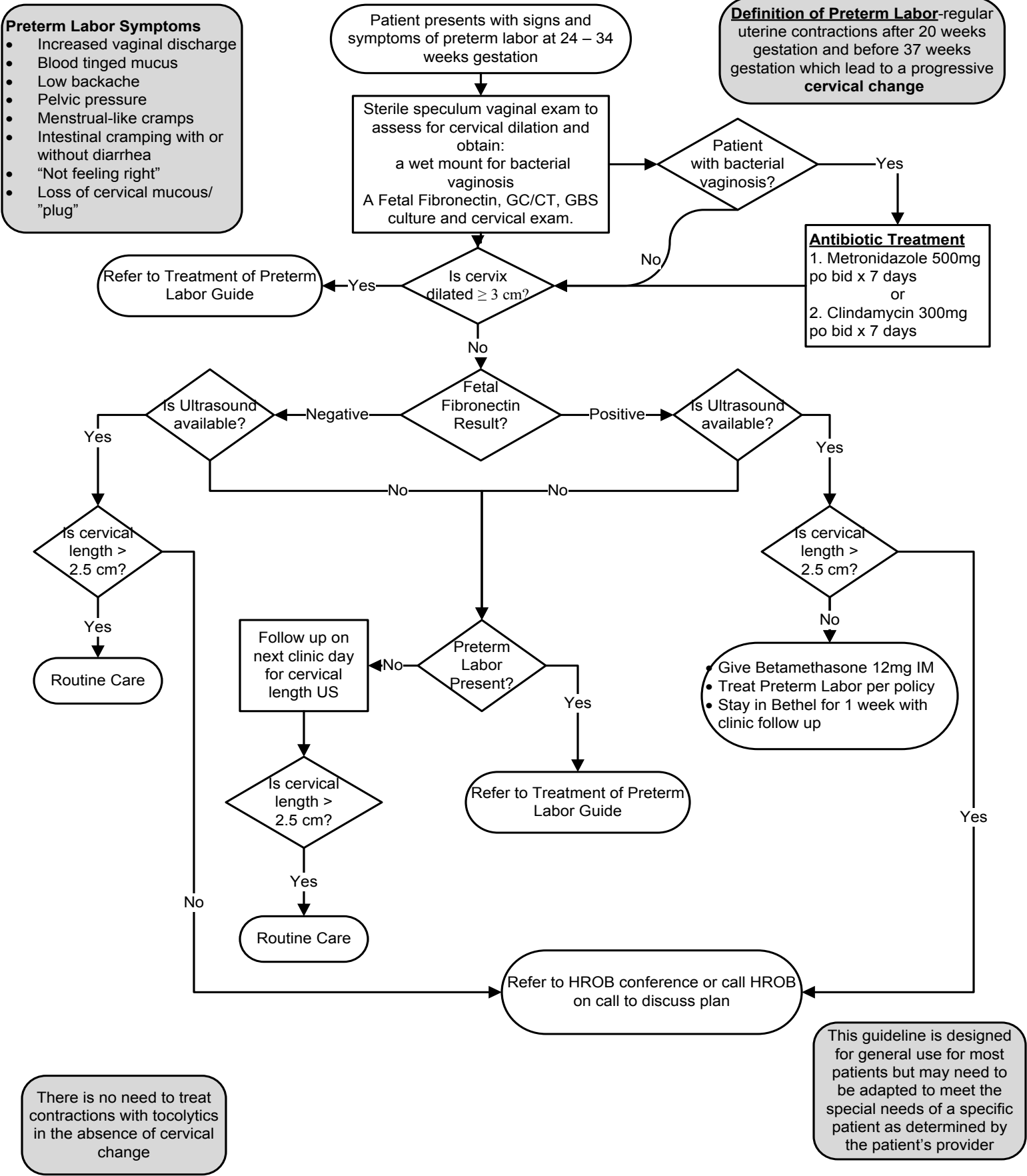
Preterm Labor – Screening and Prevention

MSEC approved 8/24/16



Preterm Labor – Evaluation

MSEC approved 07-12-17



Preterm Labor – Treatment

MSEC approved 7/12/17

Definition of Preterm Labor-regular uterine contractions after 20 weeks gestation and before 37 weeks gestation which lead to a progressive cervical change

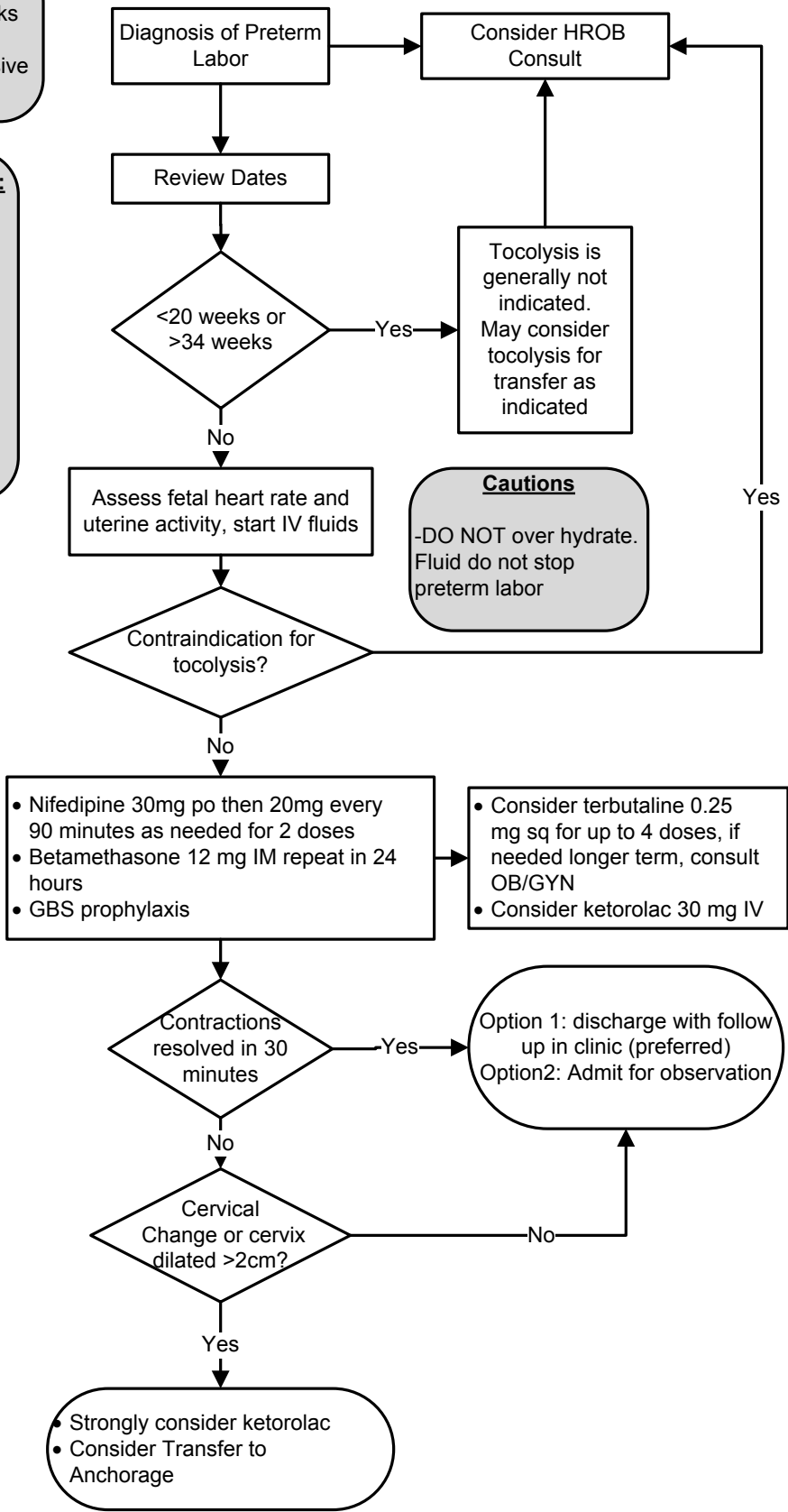
Contraindications to tocolysis:

- IUFD
- Lethal fetal anomaly
- Non-reassuring fetal assessment
- Severe IUGR
- Chorioamnionitis, relative
- Maternal hemorrhage with hemodynamic instability
- Severe preeclampsia or eclampsia
- PPROM

Contraindications to terbutaline

- Diabetes
- HTN
- Suspected placental abruption (relative)

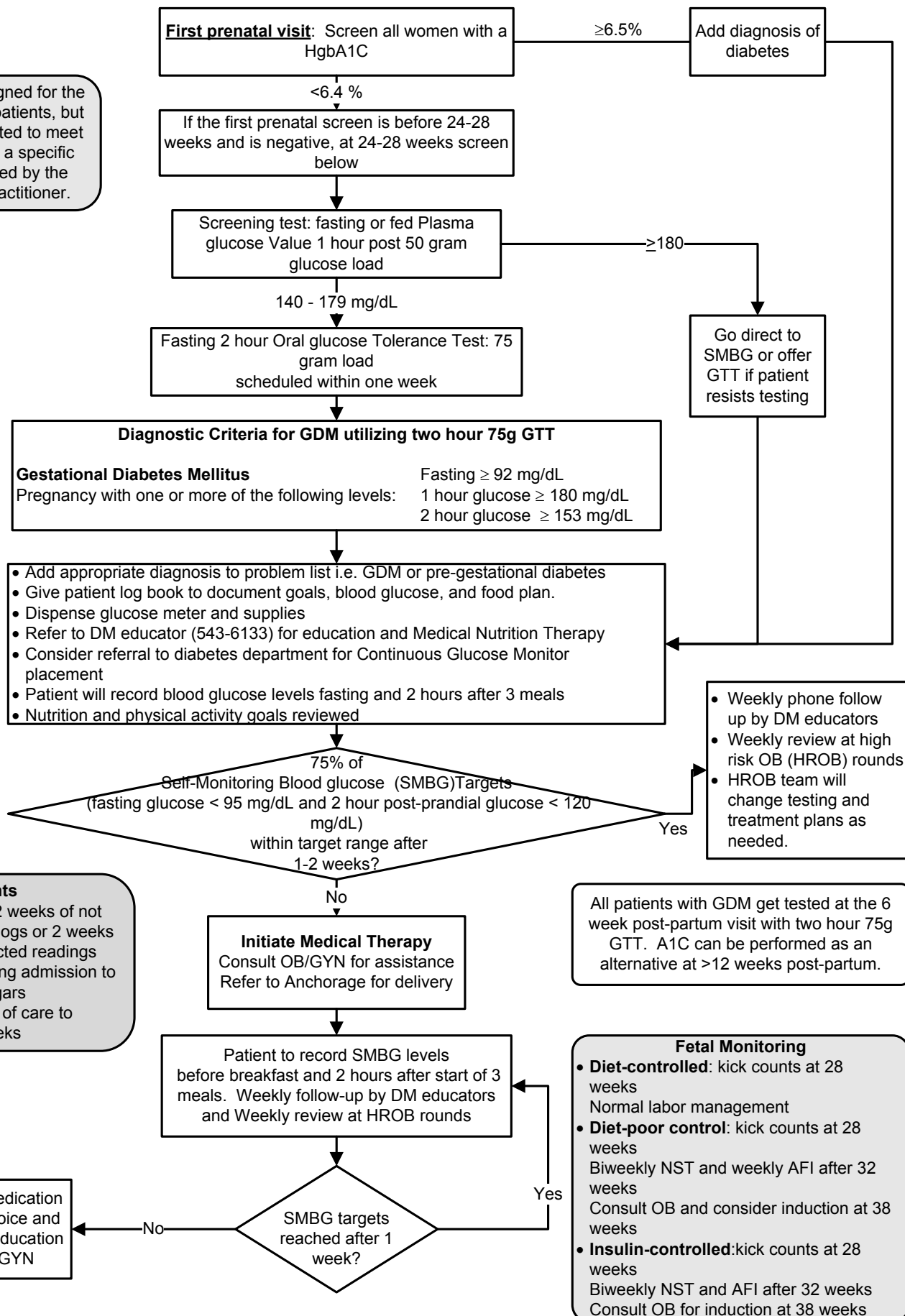
This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner.



Gestational Diabetes

MSEC approved 07-12-17

This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner.



Non-Adherent Patients

- Send letter after 2 weeks of not sending in sugar logs or 2 weeks of <25 % of expected readings
- Consider Northwing admission to monitor blood sugars
- Consider transfer of care to ANTHC at 32 weeks

Group B Streptococcus (GBS) – Maternal

MSEC approved 7/12/17

GBS Prophylaxis of the Mother at Term

Use the
GBS App

to determine need for prophylaxis and antibiotic of choice for GBS prevention

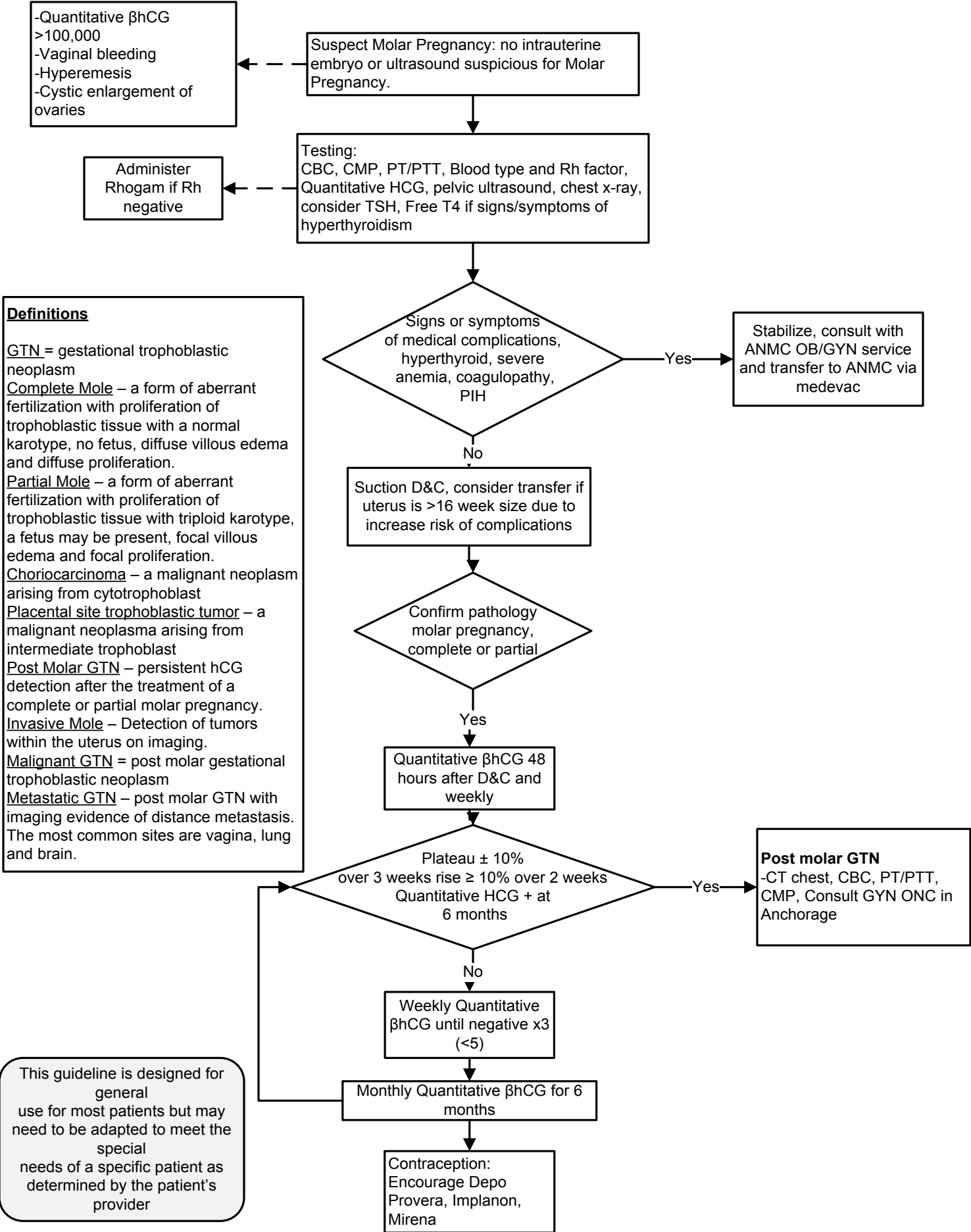
Web version: <https://www2a.cdc.gov/vaccines/m/gbs3/gbs.html>

Or

Download for your smartphone

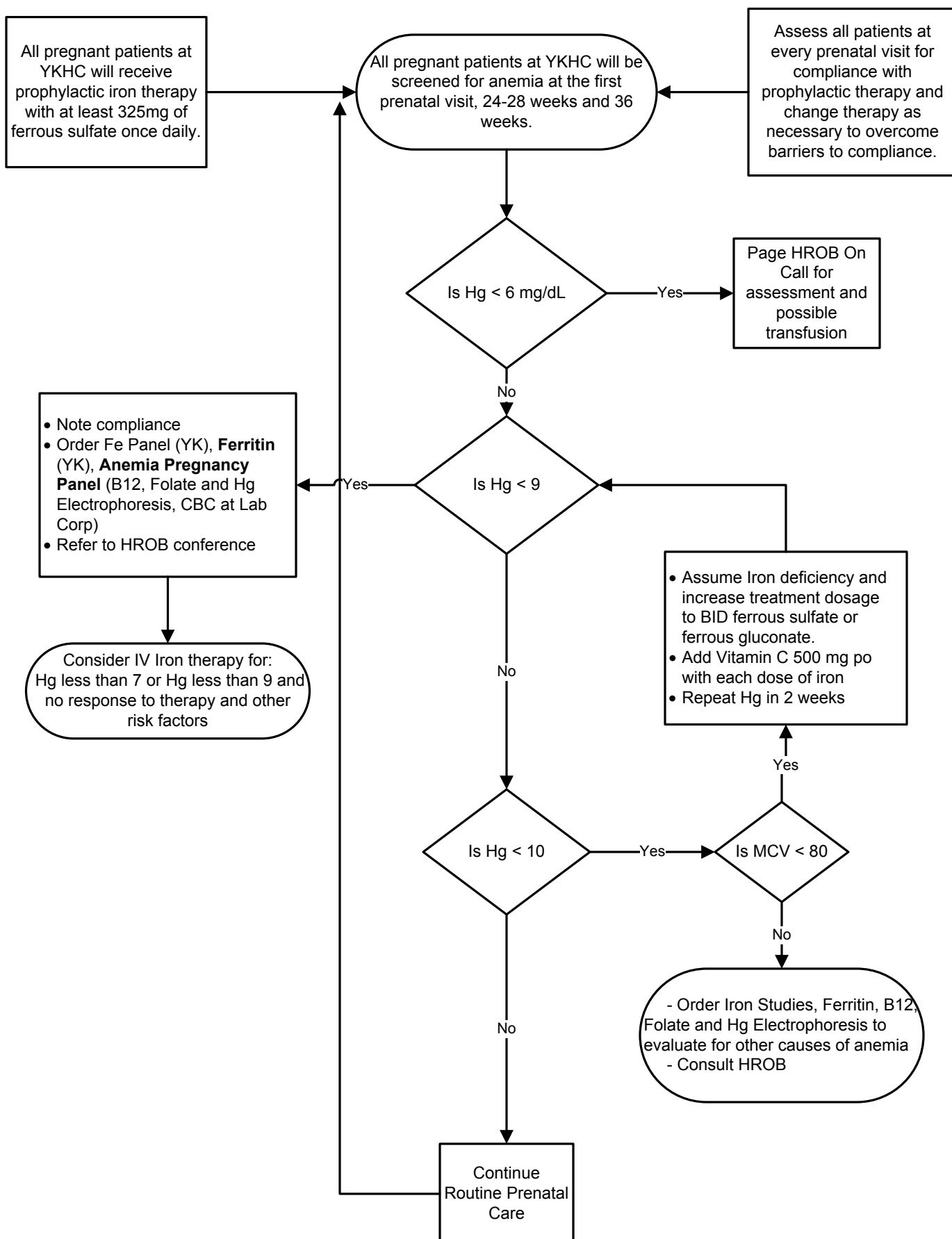
Molar Pregnancy

MSEC approved 07/12/17



Anemia in Pregnancy

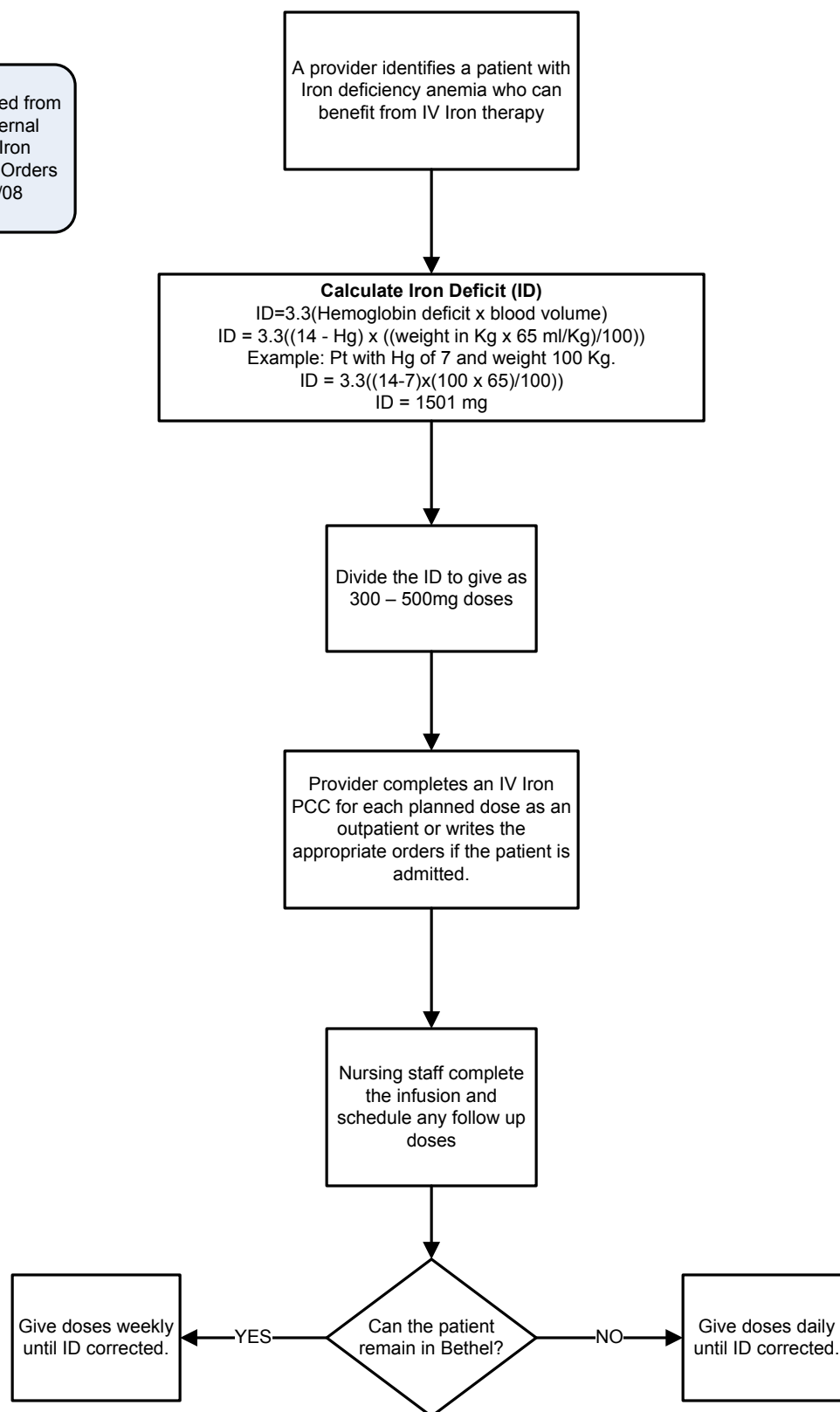
MSEC approved 07/12/17



IV Iron

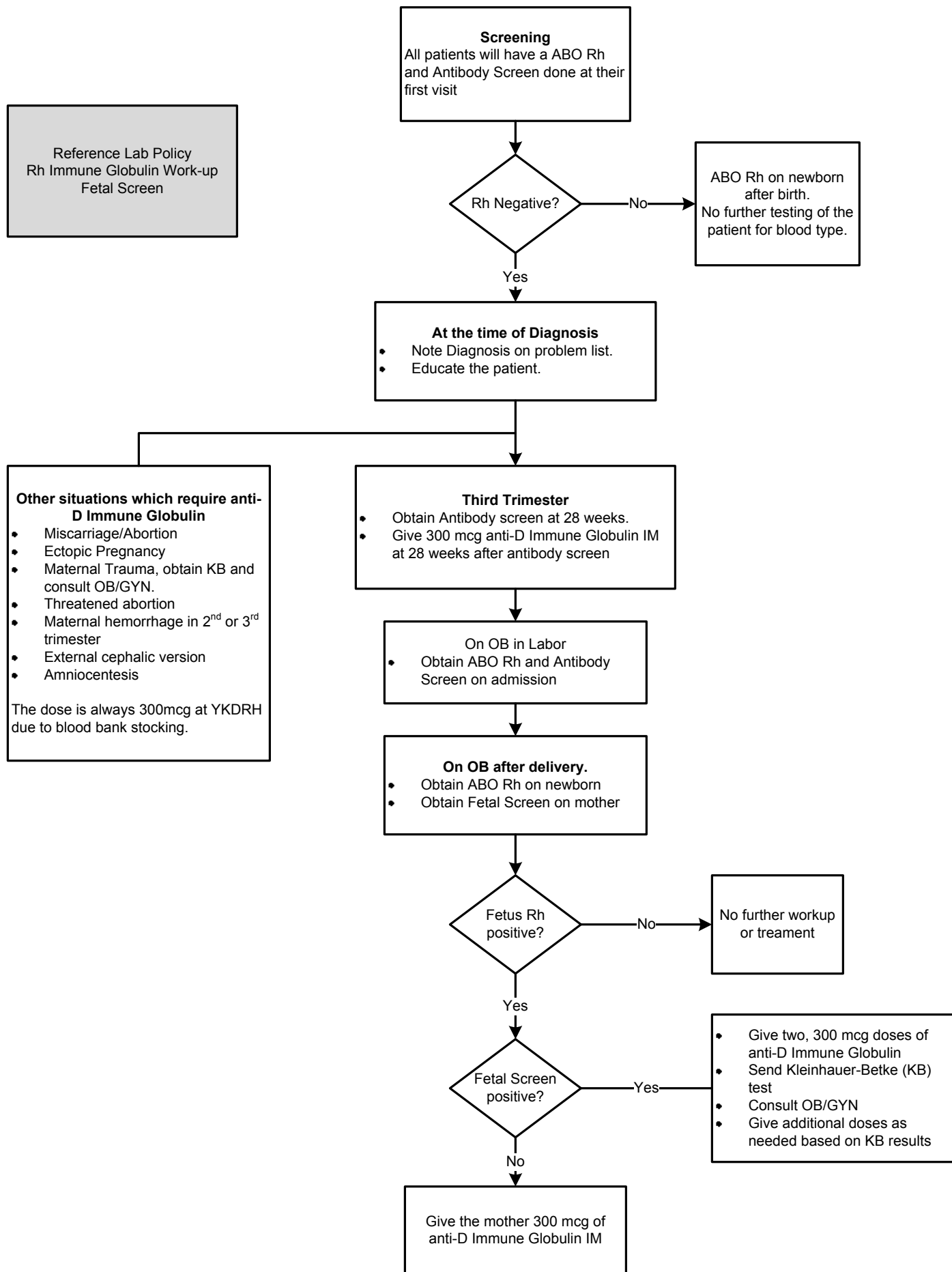
MSEC approved 06/22/11

This Policy is adapted from
ANMC policy, Internal
Medicine Clinic Iron
Deficiency Anemia Orders
Approved 6/18/08



Anti-D Immune Globulin

MSEC approved 06/22/11



Intrauterine Growth Restriction (IUGR)

MSEC approved 07/12/17

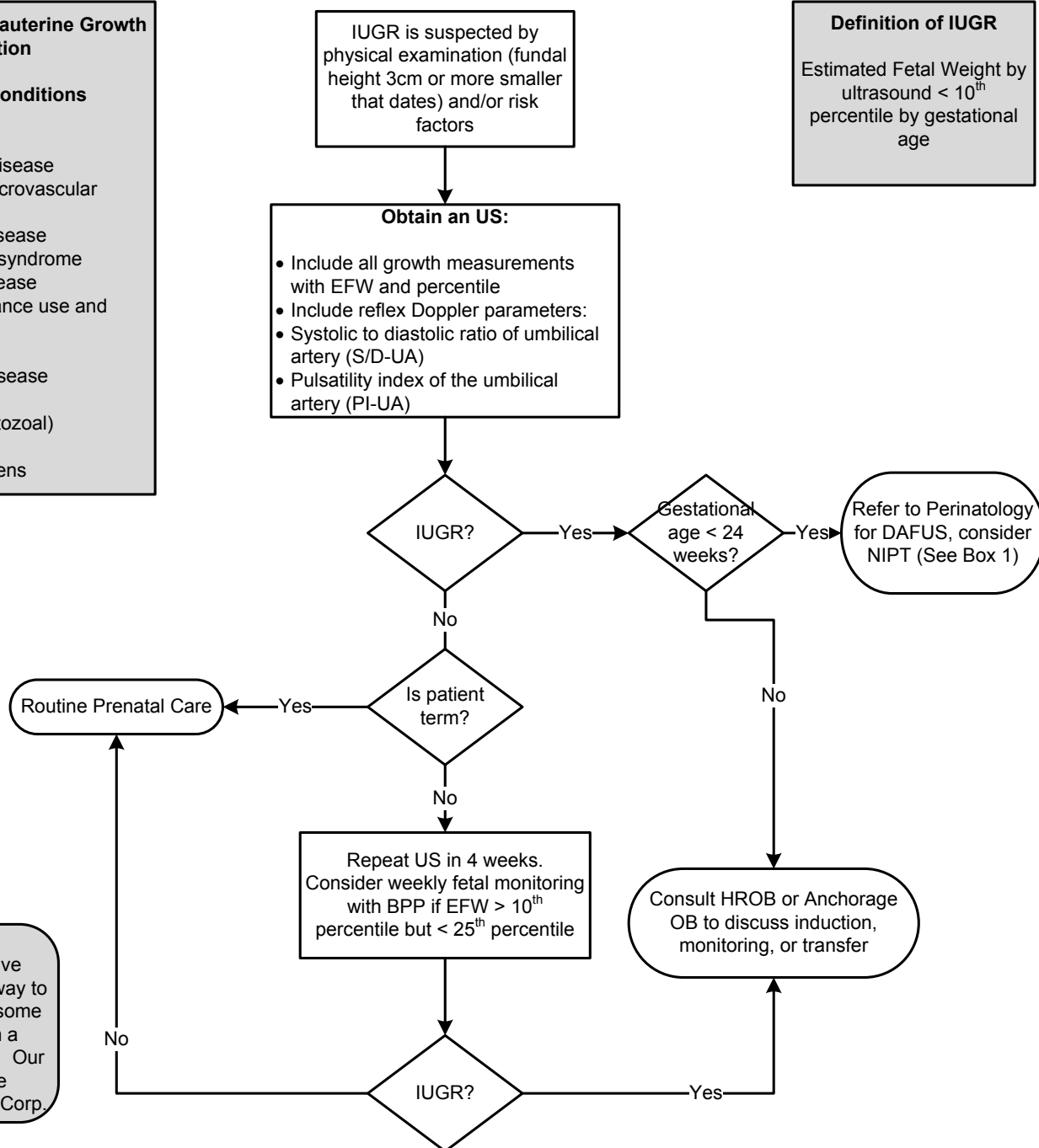
Risk Factors for Intrauterine Growth Restriction

• Maternal medical conditions

- Hypertension
- Renal disease
- Restrictive lung disease
- Diabetes (with microvascular disease)
- Cyanotic heart disease
- Antiphospholipid syndrome
- Auto-immune disease
- Smoking and substance use and abuse
- Severe malnutrition
- Primary placental disease
- Multiple gestation
- Infections (viral, protozoal)
- Genetic disorders
- Exposure to teratogens

Definition of IUGR

Estimated Fetal Weight by ultrasound < 10th percentile by gestational age



Box 1

NIPT – Non-invasive prenatal testing is a way to detect Fetal chromosome abnormalities from a maternal blood draw. Our current test is the InformaSeq from LabCorp.

Oligohydramnios

MSEC approved 07/12/17

Differential Diagnosis by Trimester

First

- Aneuploidy
- Fetal Anomaly

Second

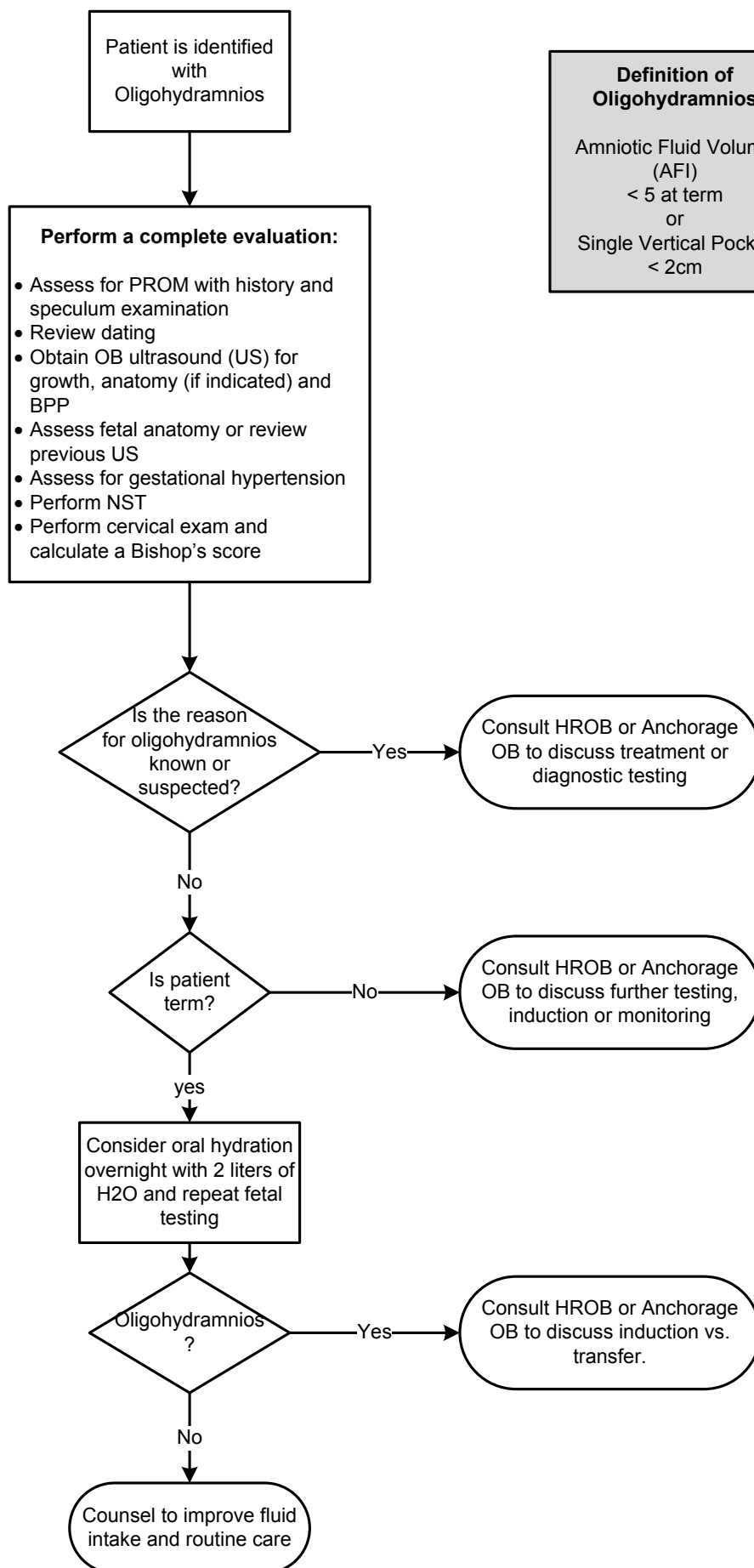
- Aneuploidy
- Fetal Anomaly
- Preterm premature rupture of membranes (PPROM)
- Placental abruption
- Fetal growth restriction
- Amniocentesis
- Elevated maternal serum alpha fetoprotein

Third

- Preterm premature rupture of membranes
- Placental abruption
- Fetal growth restriction
- Utero-placental insufficiency
- Preeclampsia
- Maternal vascular diseases
- Fetal anomaly
- Post-term
- Suboptimal maternal hydration

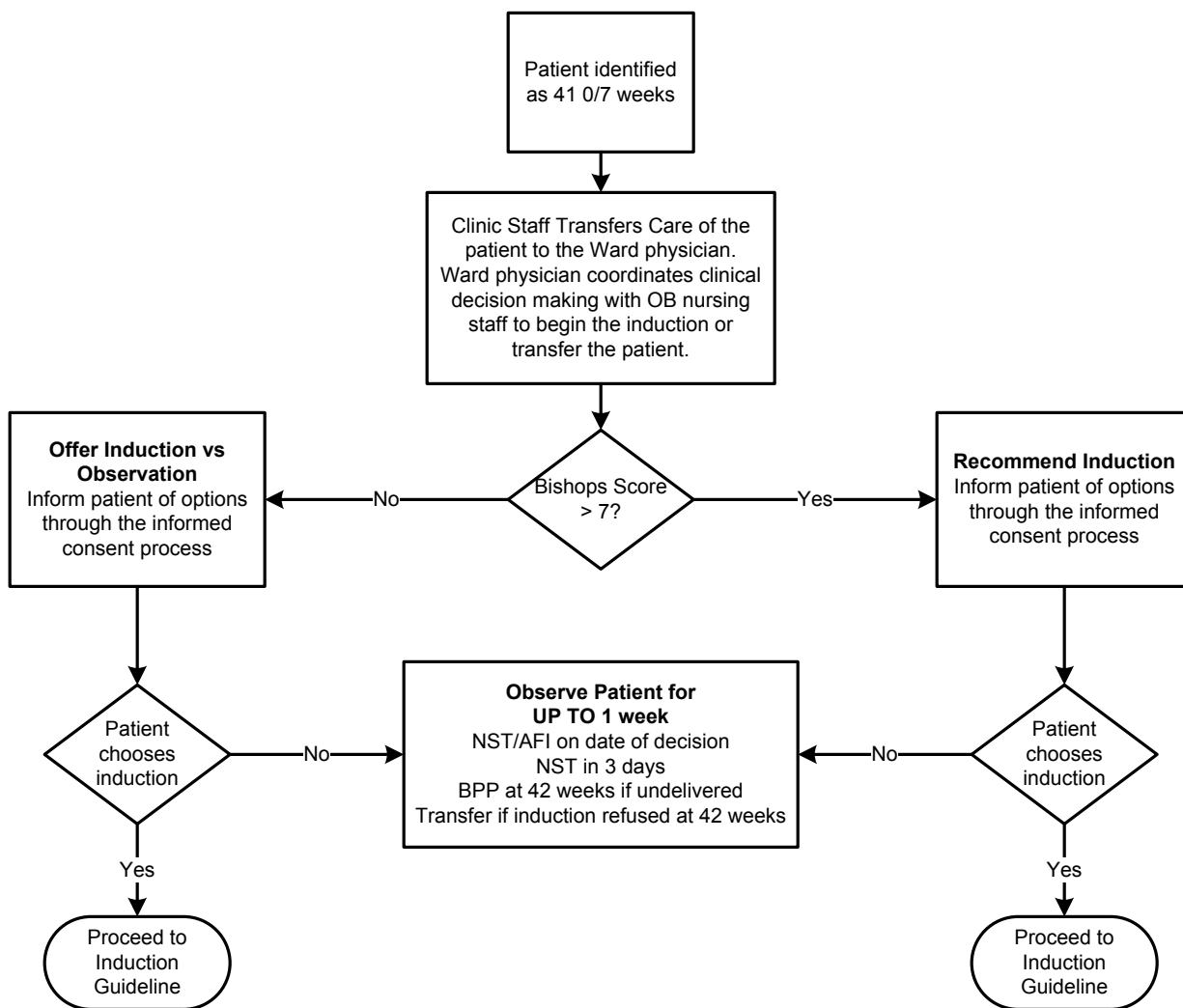
Definition of Oligohydramnios

Amniotic Fluid Volume (AFI)
 < 5 at term
 or
 Single Vertical Pocket
 < 2cm



Post Dates Pregnancy

MSEC approved 06/22/11

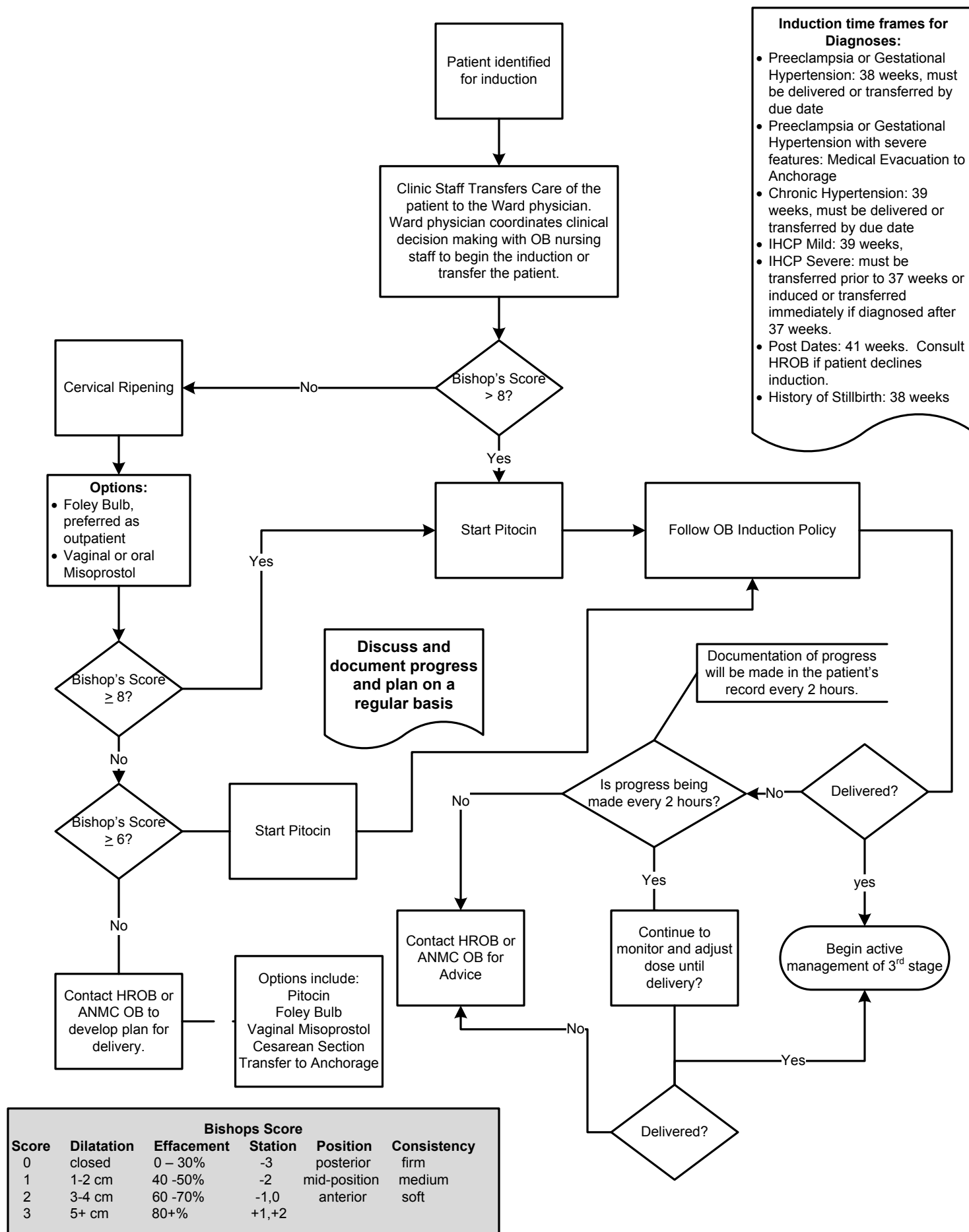


Bishops Score					
Score	Dilatation	Effacement	Station	Position	Consistency
0	closed	0 – 30%	-3	posterior	firm
1	1-2 cm	40 -50%	-2	mid-position	medium
2	3-4 cm	60 -70%	-1,0	anterior	soft
3	5+ cm	80+%	+1,+2		

This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner

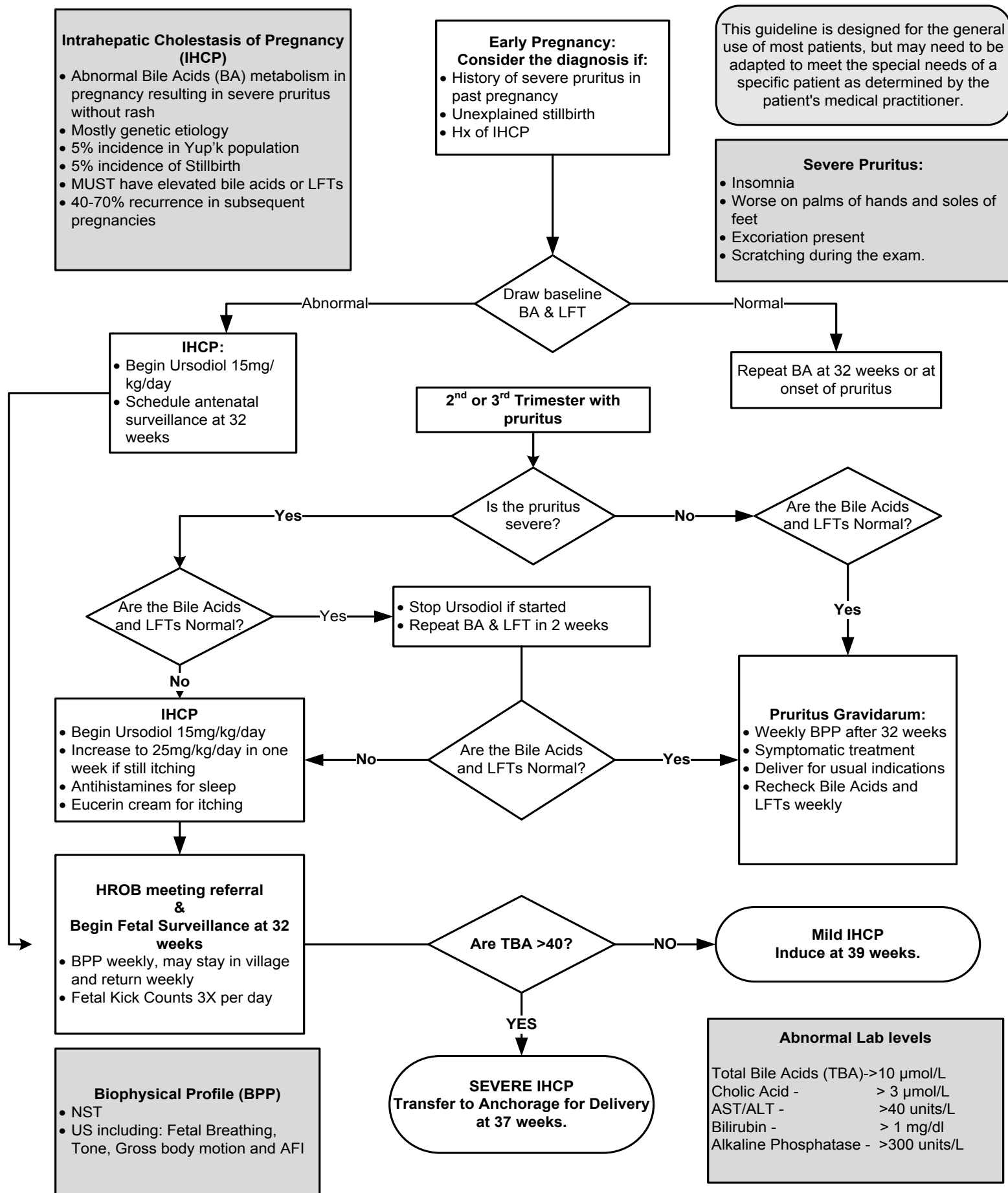
Induction of Labor

MSEC approved 12/14/16



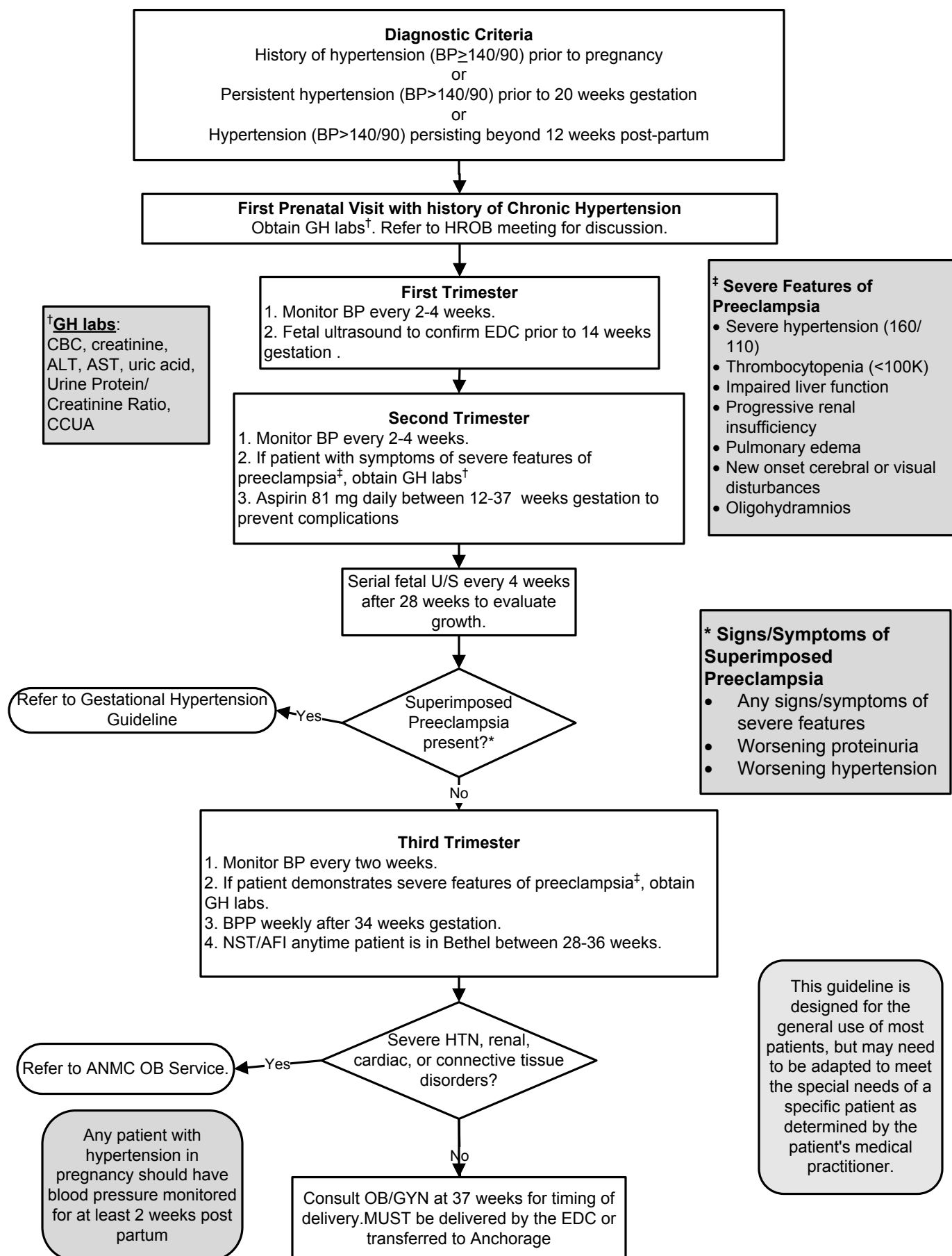
Intrahepatic Cholestasis of Pregnancy (IHCP)

MSEC approved 12/14/16



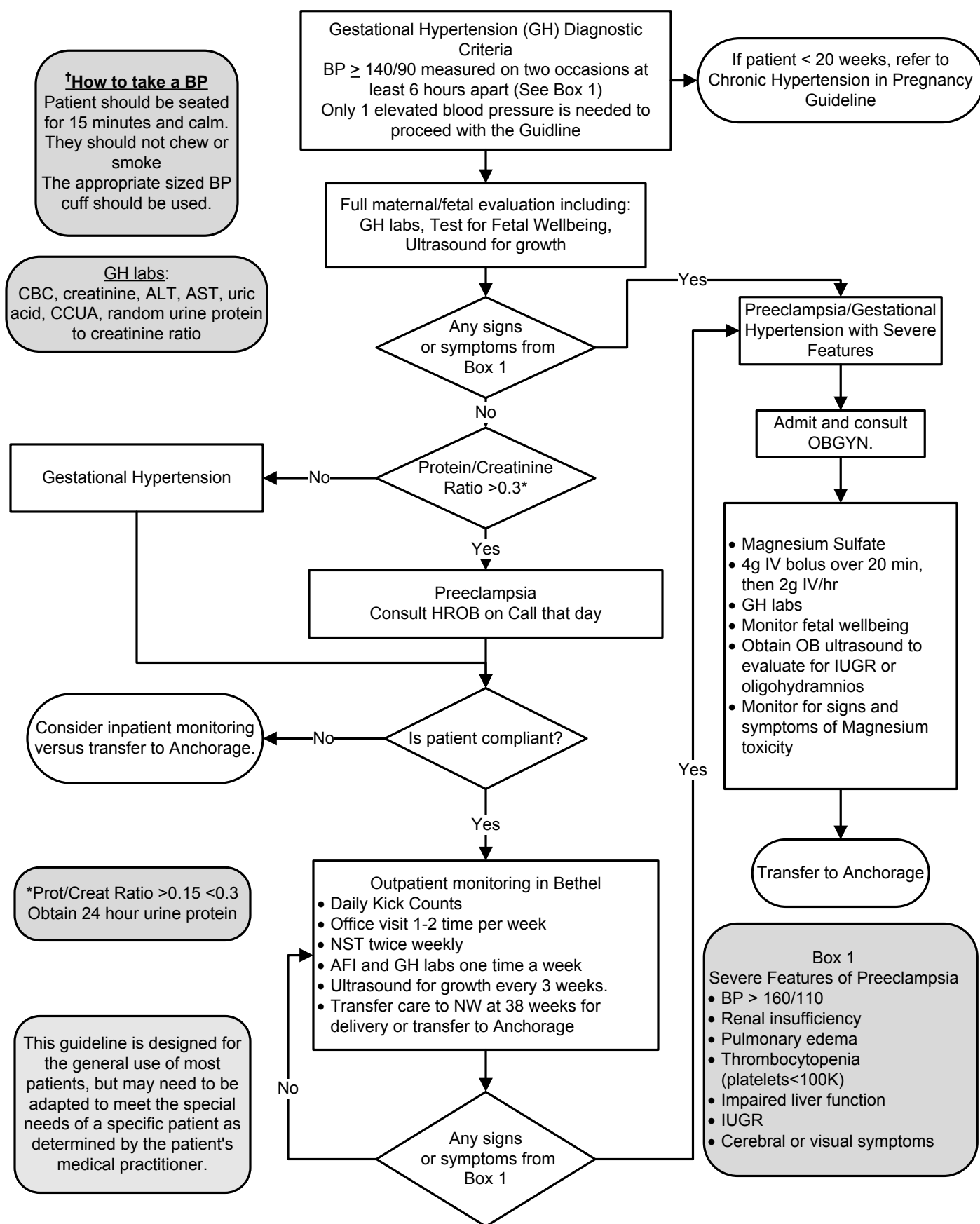
Chronic Hypertension in Pregnancy

MSEC approved 07/12/17



Gestational Hypertension

MSEC approved 07-12-17



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2017
rev. 10-09-17

OB Protocols

OB Ultrasound Referral – High Risk. 81

2nd and 3rd Stage of Labor 82

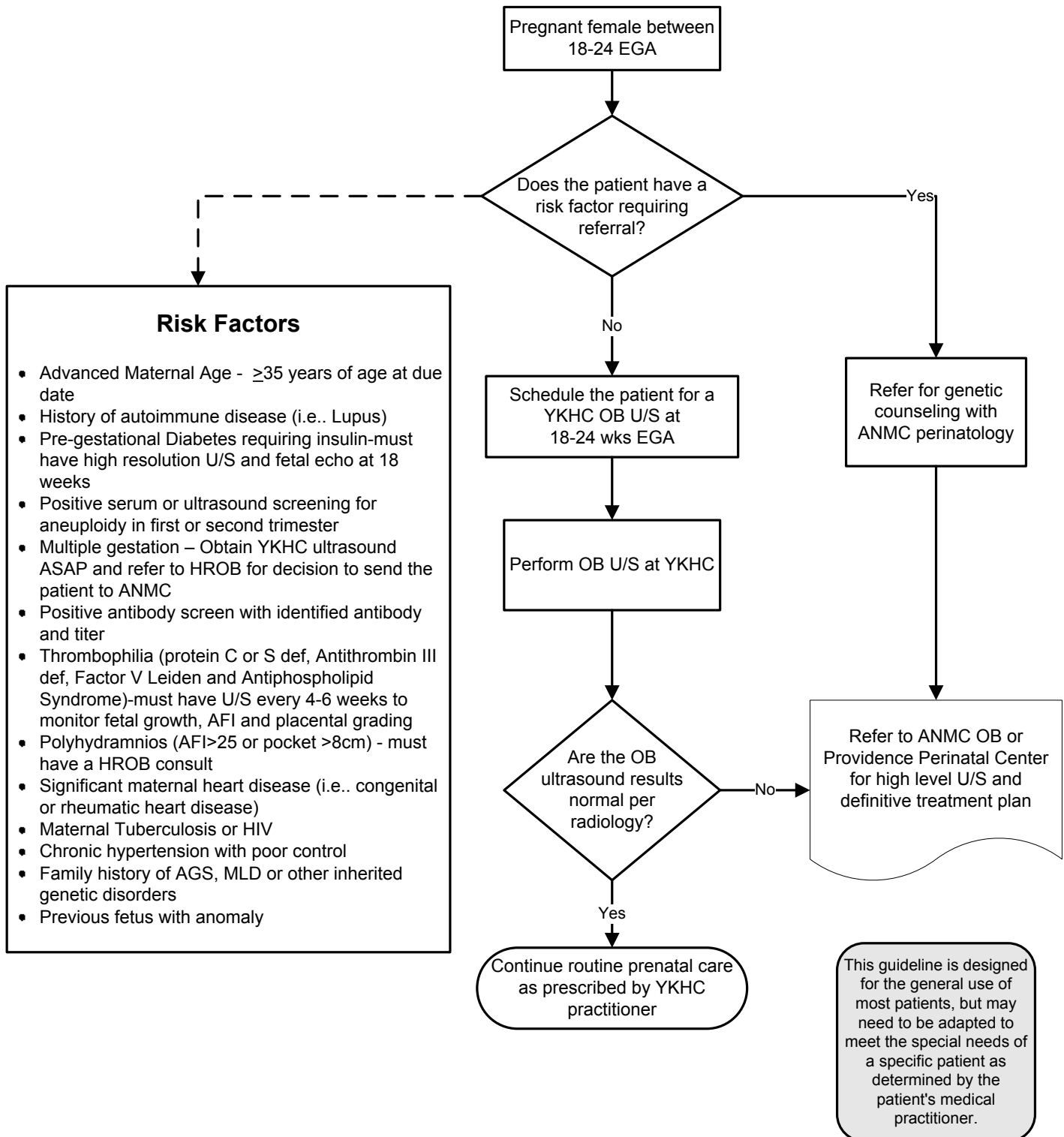
Antepartum Patient. 83

Vaginal Birth After Cesarean (VBAC) 84–87

Prenatal Care Guidelines 88

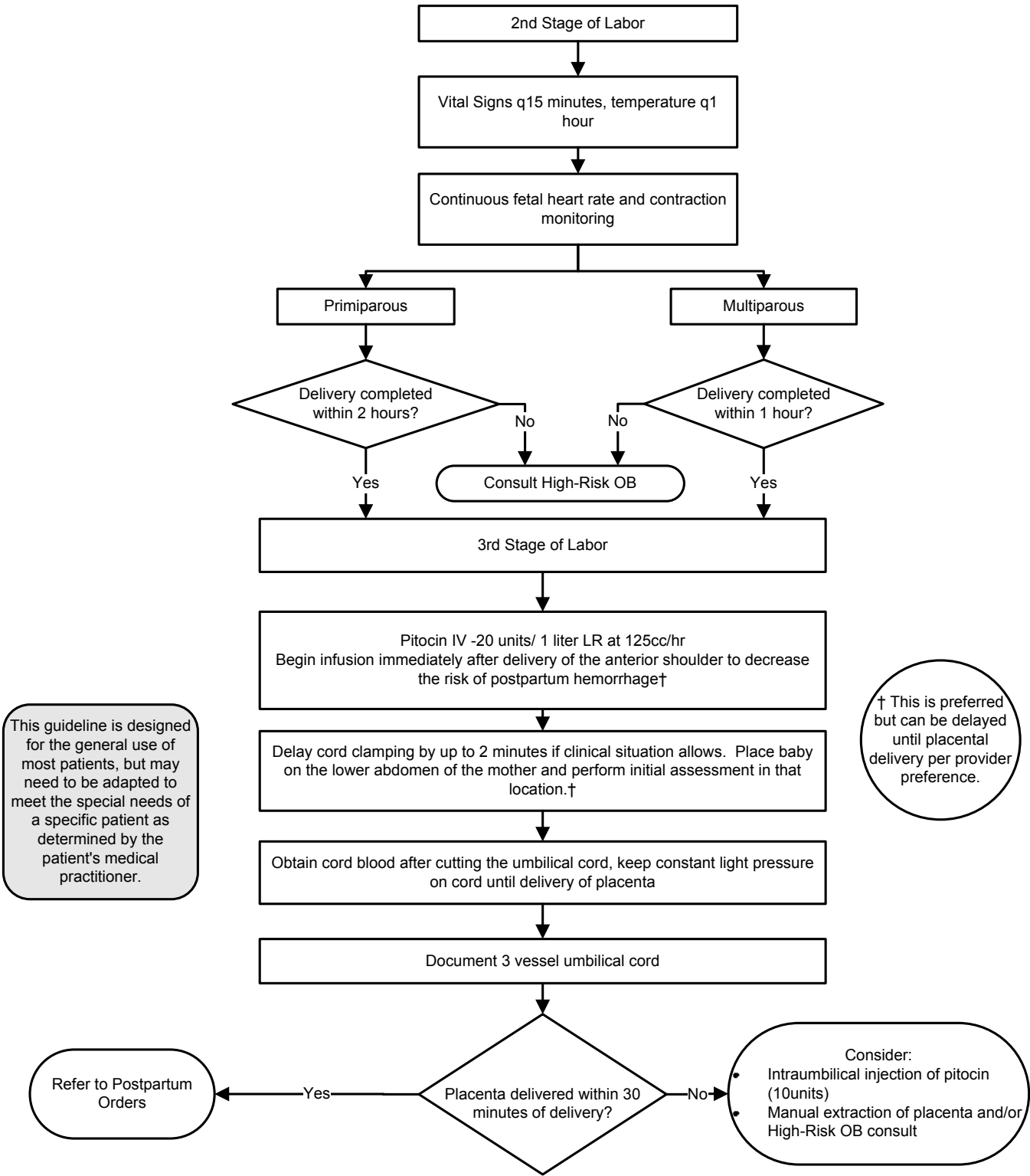
OB Ultrasound Referral – High Risk

MSEC approved 06/22/11



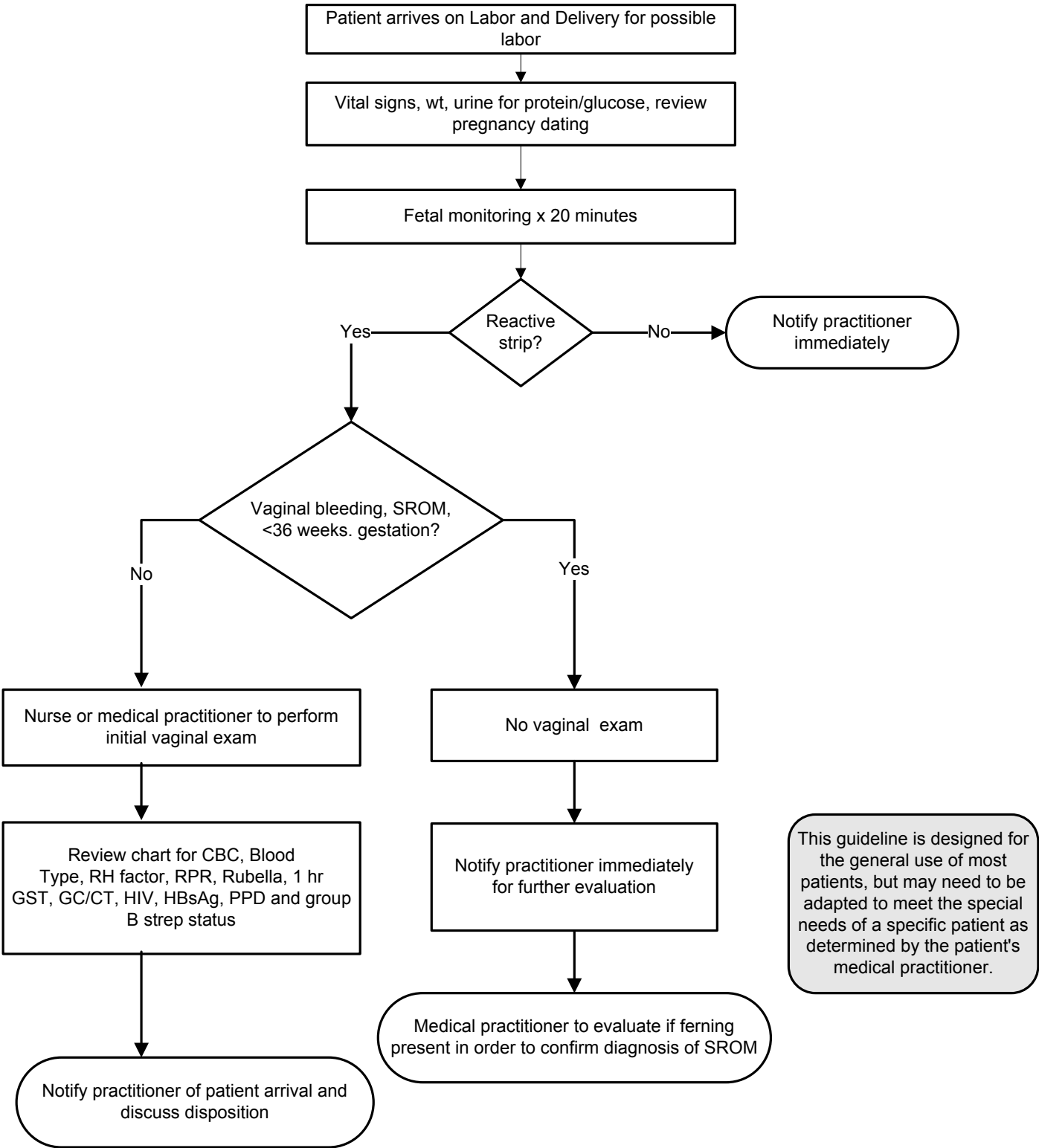
2nd and 3rd Stage of Labor

MSEC approved 06/22/11



Antepartum Patient

MSEC approved 06/22/11



Vaginal Birth After Cesarean (VBAC) - p.1

12/10/2013

Unit Structure:

The obstetrics unit of the Yukon Delta Regional Hospital has the capability to perform emergency cesarean sections as part of normal obstetric care during the intrapartum period. The operating room staff, obstetric nurses, North wing physician staff and the high-risk obstetricians (HROB) on call can respond to emergency situations as needed during before or after labor. A family practice perform vaginal births is in the hospital 24 hours a day. Obstetrical nursing is staffed to an appropriate level based on AWHONN standards. An operating room team including certified nurse anesthetist, scrub nurse and circulating nurse is on-call 24 hours a day. An HROB physician is on-call 24 hours a day to provide obstetrical consultation and surgical services as needed.

Definitions:

- **Labor:** Regular and painful uterine contractions that cause cervical change.
- **Active Labor:** The cervix is 6 cm dilated and there are regular and painful uterine contractions.
- **Adequate Labor:** Contractions every 3 minutes with a 50 torr rise above baseline (internal monitor) or contractions every 3 minutes lasting at least 45 seconds that palpate strong (external monitor).
- **Provider capable of performing a cesarean section:** The HROB physician on-call.
- **Admission:** Occurs when labor has been diagnosed, or when decision is made to deliver the patient. Observation to determine if the patient is in labor is not considered admission.
- **Anesthesia:** Refers to a CRNA who is privileged by the hospital.
- **OR Team:** One person competent to scrub for a cesarean section and one person competent to circulate during a cesarean section. These may be OR technicians, LNA, CNA, LPN, or RN.

Risk Assessment:

- Each patient will be evaluated for risk factors associated with decreased VBAC success and uterine rupture. This will be done at least 3 times during the patient's prenatal course:
 - » During an HROB conference soon after the patient's first prenatal visit.
 - » By the HROB on-call at 36 weeks after the patient's Be-in-Bethel (BIB) visit.
 - » By the HROB upon admission in labor.
- The association of factors related to an increased risk of uterine rupture has not been able to be translated into the reliable prediction of uterine rupture (1, 2). Patients without risk factors may experience uterine rupture.
- There is limited data on outcomes for women with multiple risk factors present. Some studies suggest that even when multiple risk factors are present, VBAC success rates are often at least 50% or higher (3). All patients should receive counseling about the assumed relative risk for VBAC success and uterine rupture. Management plans for these outcomes should be reviewed with the patient.

Low Risk Patient: Risk for uterine rupture approximately 0.3-0.7%.

- 1 or 2 prior low transverse cesarean section(s)
- Spontaneous onset labor
- No need for augmentation
- No repetitive FHR abnormalities
- Patients with a prior successful VBAC are especially low risk. However, their risk status escalates the same as other low risk patients.

Medium Risk Patient: Risk for uterine rupture is likely greater than 0.7%.

- Induction of labor
- Oxytocin augmentation
- < 18 months between prior cesarean section and current delivery.
- 3 or more prior low transverse cesarean sections.

High Risk Patient: Patients who have intra-partum signs or symptoms that may be associated with uterine rupture or failure of vaginal delivery (4).

- Recurrent clinically significant deceleration (variable, late or prolonged fetal heart rate decelerations) not responsive to clinical intervention
- Significant bleeding of uterine origin
- New onset of intense uterine pain
- 2 hours without cervical change in the active phase despite adequate labor

Prenatal Management:

- Records of prior delivery reviewed, including type of uterine incision and method of closure. Evaluate history of previous uterine surgery. Patients will only be approved for VBAC at YDRH if they have a documented transverse lower uterine segment scar that was closed in two layers.
- Appropriate patient education brochure given to patient and reviewed with patient.
- Appropriate VBAC consent reviewed during prenatal care and signed. This will be documented after the 1st prenatal visit, at the BIB visit and upon admission in labor.
- Informed consent should include a discussion of the following.

Vaginal Birth After Cesarean (VBAC) - p.2

- » A description of the process of risk assessment.
- » The ability of the institution to care for the patient, based on her risk level.
- » The process of transfer of care, should it become necessary based on risk factors.
- » Institutional management plans for uterine rupture.
- Anesthesia consultation/evaluation per institution guidelines.
- If the primary OB provider cannot perform a cesarean section, consultation with provider privileged to perform a cesarean section.

Basic Intra-partum Care Recommendations for all VBAC Patients:

- Review with the patient the risks/benefits of proceeding with VBAC on admission. Determine if the patient's risk level has changed, or patient choice has changed. This review should be documented in the medical record.
- Estimated fetal weight will be documented by the HROB or north wing physician.
- Lab/Blood Bank Preparation
 - » CBC and Type and Screen.
- Anesthesia personnel notified of admission.
- Pediatric personnel notified of admission.
- OR Team notified of admission and plan in place if cesarean delivery needed.
 - » Does not mean an OR is kept open for patients at low risk.
- In Active Labor (6 cm dilated).
 - » Continuous Electronic Fetal Monitoring.
 - » Place 18 gauge IV.
 - » HROB on-call notified.
- All patients attempting VBAC should have their labor progress monitored carefully to ensure adequate progress. Arrest of labor is associated with decreased VBAC success and uterine rupture.

Intra-partum Management:

The laboring patient will be monitored and cared for based on obstetric policy for all laboring patients with the exceptions noted above.

Low Risk Patient:

- No additional interventions other than those listed above.
- The HROB may be at home within 1.5 miles of the hospital.
- Cesarean delivery provider may have other acute patient care responsibilities.

Medium Risk Patient:

- We recommend that these patients have a cesarean section. In some cases, when delivery is imminent, labor may be allowed to continue with careful counseling.
- The HROB on-call must come to the hospital. Cesarean delivery provider may have other acute patient care responsibilities.
- An open and staffed operating room is available or there is a plan in place if immediate delivery is required. This may be a room where there is adequate lighting, instruments, and general anesthesia can be administered if needed.
- An anesthesia provider is present in the hospital during the active phase of labor.

High Risk Patient:

- We recommend that these patients have an immediate cesarean section.

Caveats:

- Misoprostil WILL NOT be used in these patients.
- Patients with two prior cesarean sections will NOT be approved for VBAC at the YDRH.
- Patients with a single layer closure of the uterus will NOT be approved for VBAC at the YDRH.
- Patients who present for delivery at YDRH in labor with a previous cesarean and no plan of management will be evaluated by the HROB on-call. A risk assessment will be done and the patient will be counseled. If the risk cannot be adequately assessed, the patient will be offered a repeat cesarean section.

Proposed Performance Measure:

The percentage of patients for whom there is documented risk status at the time of admission, and documented change in risk status during labor, should that occur.

Vaginal Birth After Cesarean (VBAC) - p.3

Complication	VBAC Attempt	Planned Cesarean Birth
Uterine Rupture	468/100,000	26/100,000
Maternal Death	4/100,000	13/100,000
Hysterectomy	No significant difference	No significant difference
Blood Transfusion	No significant difference	No significant difference
Maternal Infection	No significant difference	No significant difference
Infant Infection	Insufficient information	Insufficient information
Infant Bag and Mask Ventilation Required	5,400/100,000	2,500/100,000
Transient Tachypnea of the Newborn (TTN)	3,600/100,000	4,200/100,000
Infant with Brain Injury (HIE)	Insufficient information	Insufficient information
Infant death in pregnancy or within 7 of birth (Perinatal Death Rate)	130/100,000	50/100,000
Infant death within 30 days of birth (Neonatal Death Rate)	110/100,000	60/100,000

Guise JM, Denman MA, Emis C, Marshall N, Walker M, Fu R, Janik R, et al. Vaginal birth after cesarean. New insights on maternal and neonatal outcomes. Obstetrics and Gynecology June 2010; 115:1267

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Vaginal Birth After Cesarean (VBAC) - p.4

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Studies were evaluated for quality according to the method outlined by the U.S. Preventative Services Task Force

I Evidence obtained from at least one properly designed randomized controlled trial.

II–1 Evidence obtained from well–designed controlled trials without randomization.

II–2 Evidence obtained from well–designed cohort or case–control analytic studies, preferably from more than one center or research group.

II–3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A—Recommendations are based on good and consistent scientific evidence.

Level B—Recommendations are based on limited or inconsistent scientific evidence.

Level C—Recommendations are based primarily on consensus and expert opinion.

Prenatal Care Guidelines

Rev Date: 6/20/17

BASICS

- Review the chart EVERY visit for incomplete lab or other required testing.
- Review the problem list EVERY visit for needed testing or intervention items.
- Patient should see a Bethel provider or CHA/P monthly from first visit to 32 weeks.
- Patient should see a Bethel Provider or CHA/P every 2 weeks after 32 weeks and then weekly at 36 weeks.
- If there is any question of EDC, see guideline or refer to HROB meeting for decision.

First Prenatal

NURSING/CASE MANAGER

- Order First Trimester Transvaginal OB Ultrasound (>6weeks) for dating
- Patient to initiate paperwork
 - Residential Information sheet
 - Pregnancy Verification Sheet—use LMP if no EDC from ultrasound
 - Quad screen consent form
 - FAS & Drug assessment screening questionnaire
 - 36wk BIB/Medevac Policy
- Review TB screening status —Patient MUST HAVE a negative Quantiferon or PPD prior to 36 weeks to stay at Prematernal Home. Place PPD if needed.
- Send patient for labs: Urinalysis with reflex, Blood type and screen, HbsAg, CBC, Rubella titer, RPR, HIV testing, HgA1C, 25-OH Vitamin D.
- Set up room for pelvic to do PAP (only do a PAP if it is due), Wet Prep, GC/CT (with verbal consent)
- Routine patient handouts: WIC handout

PROVIDER

- Prenatal H&P and Prenatal Education
- Chart review
- Offer Flu vaccine October through the end of the flu season
- Discuss and sign BIB/Medevac Policy contract
- Update the Problem List and include EDC and gravida/para in one problem
- Refer to HROB meeting if needed
- Ask about S/S of IHCP, if positive, add Bile acids and LFTs to lab draw

PATIENT

- Go to the Medicaid office to file for Medicaid
- Go to the WIC office to file for WIC

15–21 Weeks

- Quad screen to be drawn, if desired, must be drawn between 15 and 21 weeks gestation
- Review TB status

20 Weeks

- Ultrasound to screen for anomalies, US OB anatomy and cervical length
 - only one is needed no matter where it is done
 - Aim for 20 weeks
 - If anatomy incomplete, order a US OB follow-up for the next visit to complete the anatomy exam

24–28 Weeks

NURSING

- Labs: GST, CBC, 25-OH Vitamin D
- Tdap, after 24 weeks
- GST-50g (1/2 bottle or 5 oz)
 - If result >140mg/dl schedule 3 hour GTT ASAP.
 - If the result > 179, no GTT, refer directly to diabetes education
- Attempt to keep the patient until the results of the GST are back.
- Review TB status. Send to lab for Quantiferon if failed to have PPD read.

PROVIDER

- After 28 weeks ask about preeclampsia symptoms
- After 24 weeks ask about PTL symptoms and IHCP symptoms?
 - Back pain
 - Sudden increase in vaginal discharge
 - Pelvic Pressure
 - Cramps/contractions
- Educate patient on fetal movement count

36-week/ BIB date

- Labs: CBC, RPR, Pelvic exam with GBS culture, GC/CT, wet mount if concerns.
- Review TB status. Send to lab for Quantiferon if status unknown.
- Schedule appointments to be seen each week by Bethel provider through 41 weeks
- Complete Pre-maternal Home/Medical clearance paper
- Ask about any symptoms of:
 - Rupture of membranes
 - Preeclampsia
 - labor
 - itching

**CLINICAL
GUIDELINES
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rev. 10-09-17

Outpatient Guidelines

Skin and Soft Tissue Infection 90–91

Aspirin. 92

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Dyspepsia – H. Pylori 98

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Myocardial Infarction (AMI) – Post Discharge Care 100

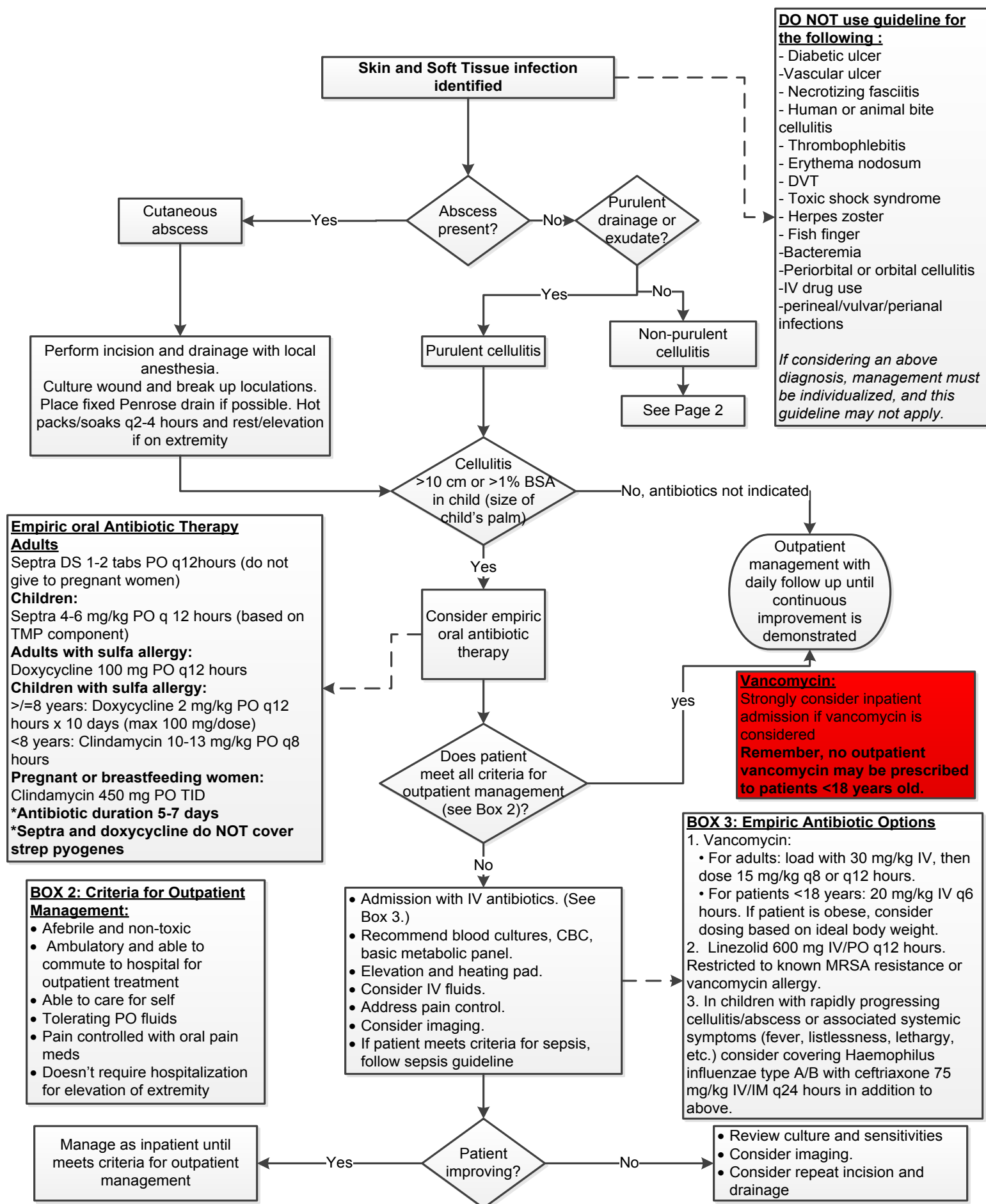
Breast Cancer Screening 101

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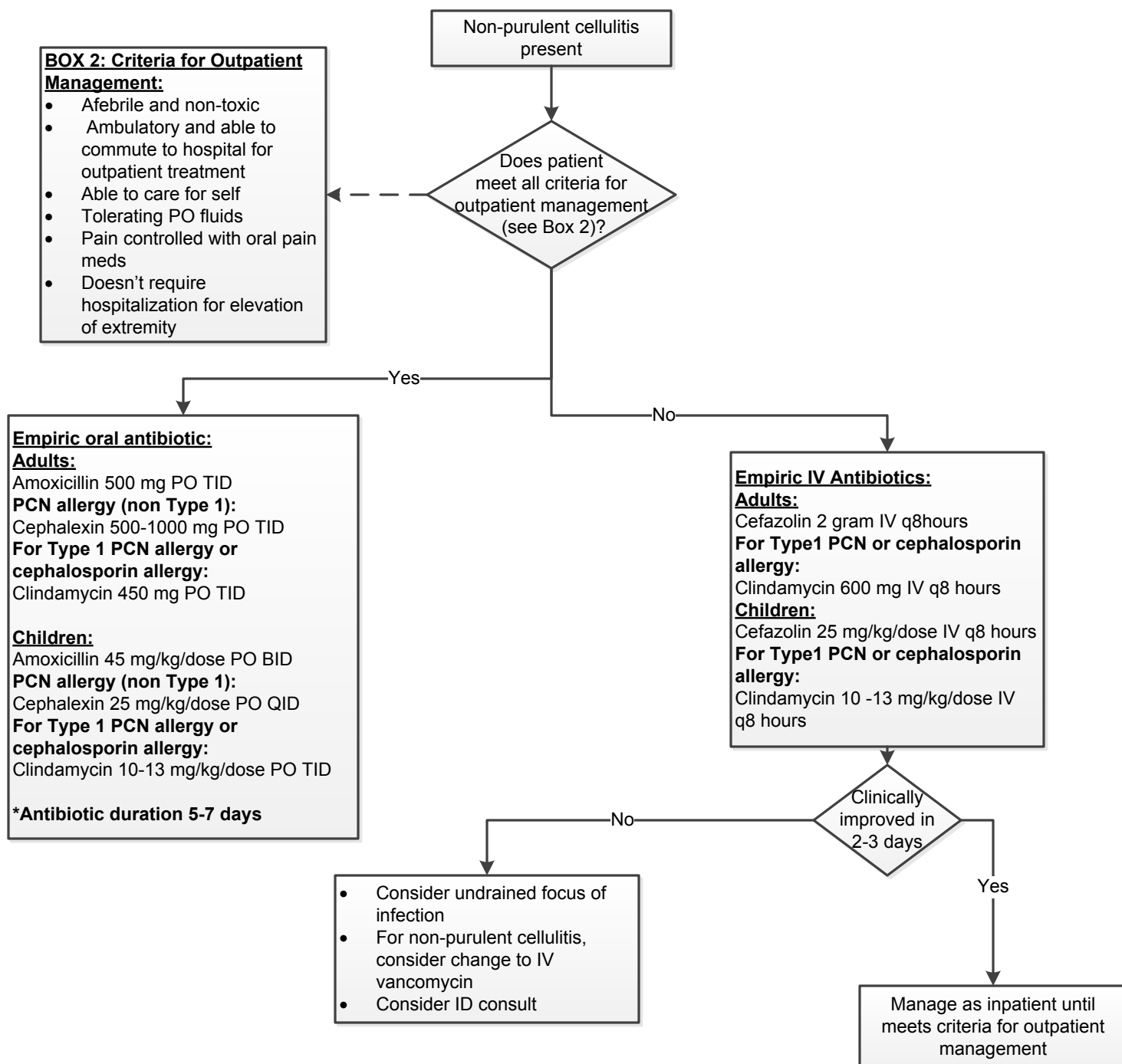
Skin and Soft Tissue Infection, p.1

MSEC approved 07/12/17



Skin and Soft Tissue Infection, p.2

MSEC approved 07-12-17

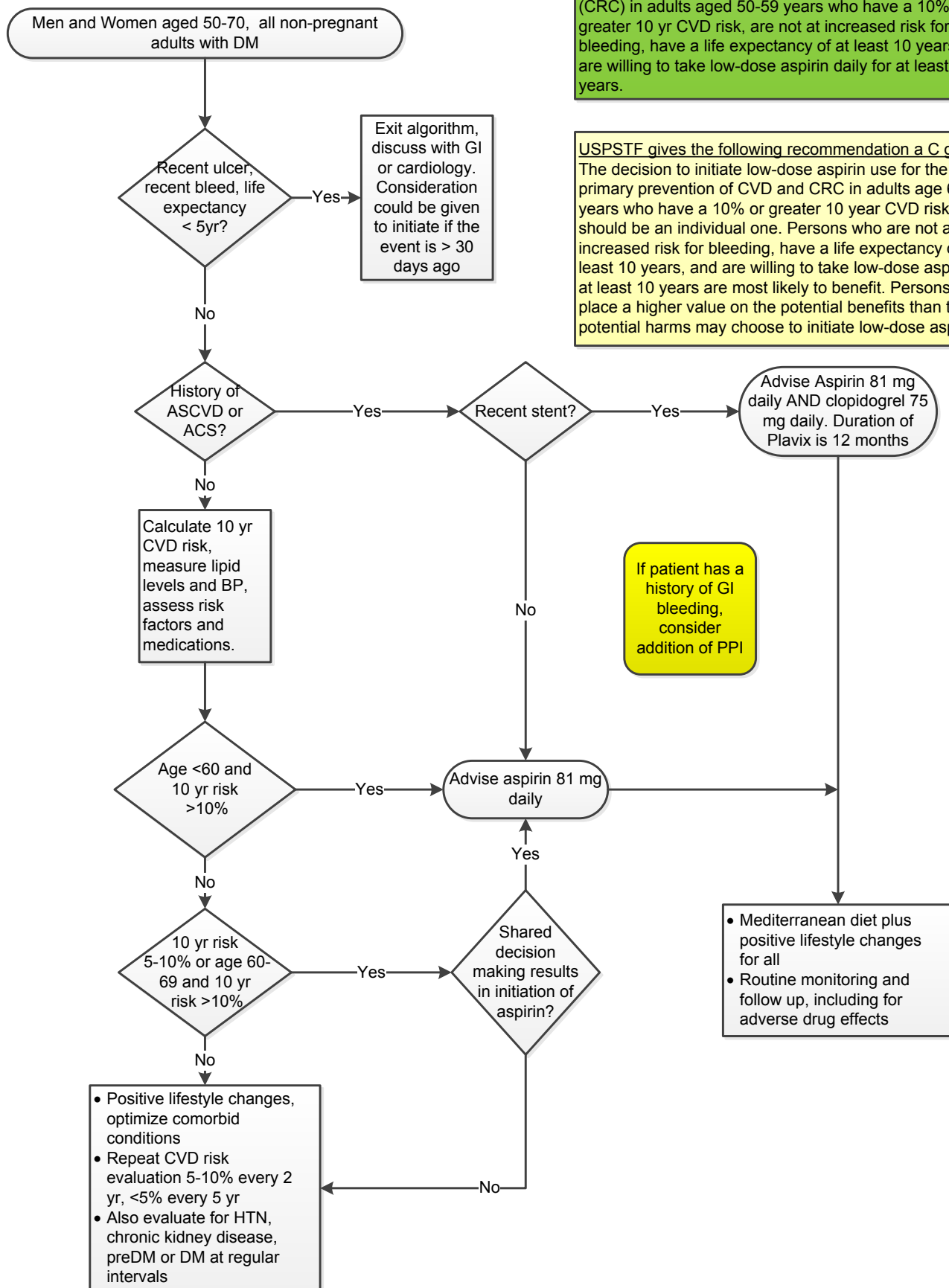


Aspirin

MSEC approved 07-12-17

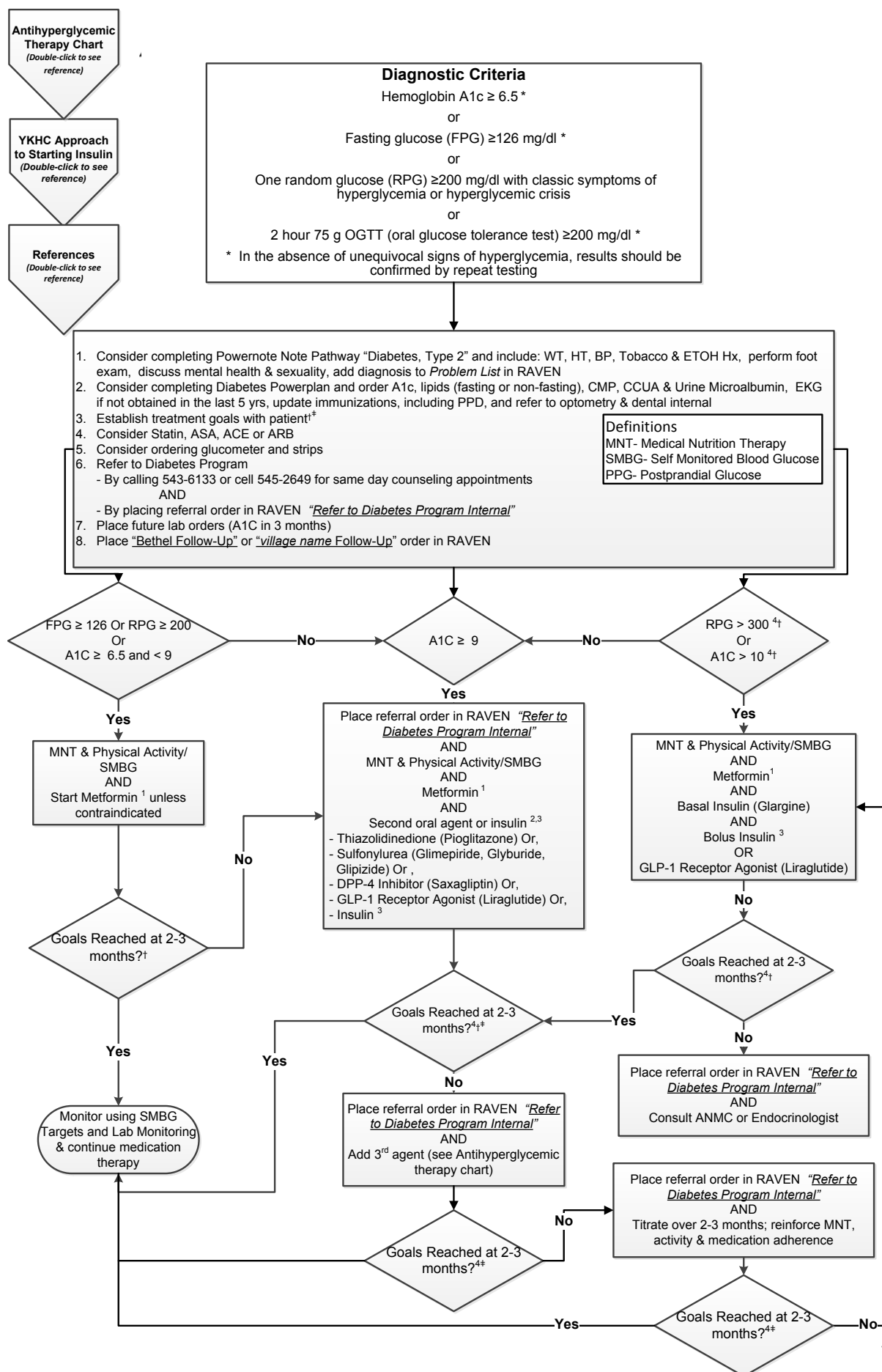
USPSTF gives the following recommendation a B grade:
Initiation of low dose aspirin for the primary prevention of cardiovascular disease (CVD) and colorectal cancer (CRC) in adults aged 50-59 years who have a 10% or greater 10 yr CVD risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years.

USPSTF gives the following recommendation a C grade:
The decision to initiate low-dose aspirin use for the primary prevention of CVD and CRC in adults age 60-69 years who have a 10% or greater 10 year CVD risk should be an individual one. Persons who are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin for at least 10 years are most likely to benefit. Persons who place a higher value on the potential benefits than the potential harms may choose to initiate low-dose aspirin.



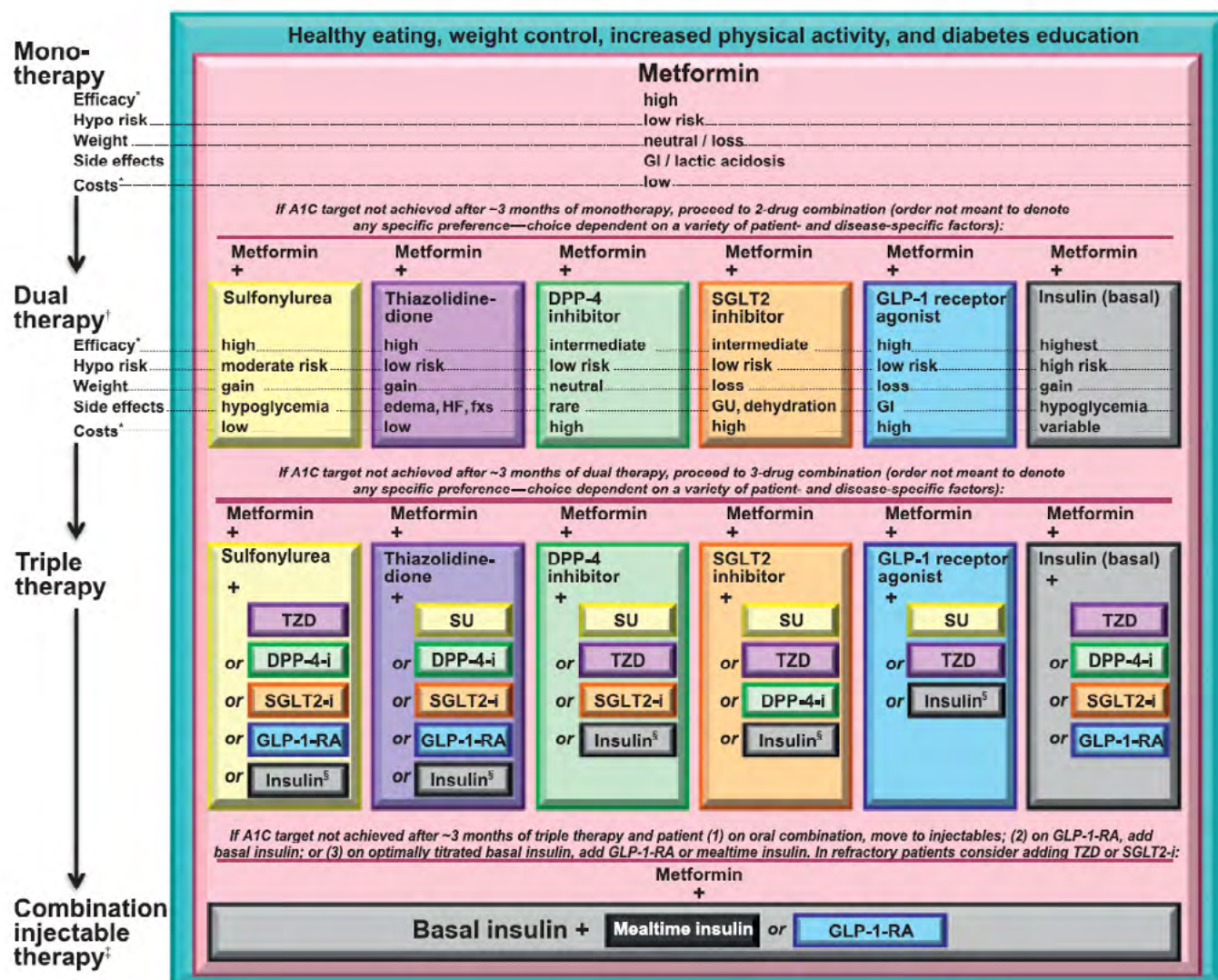
Type 2 Diabetes

MSEC approved March, 2015



Type 2 Diabetes

MSEC approved March, 2015

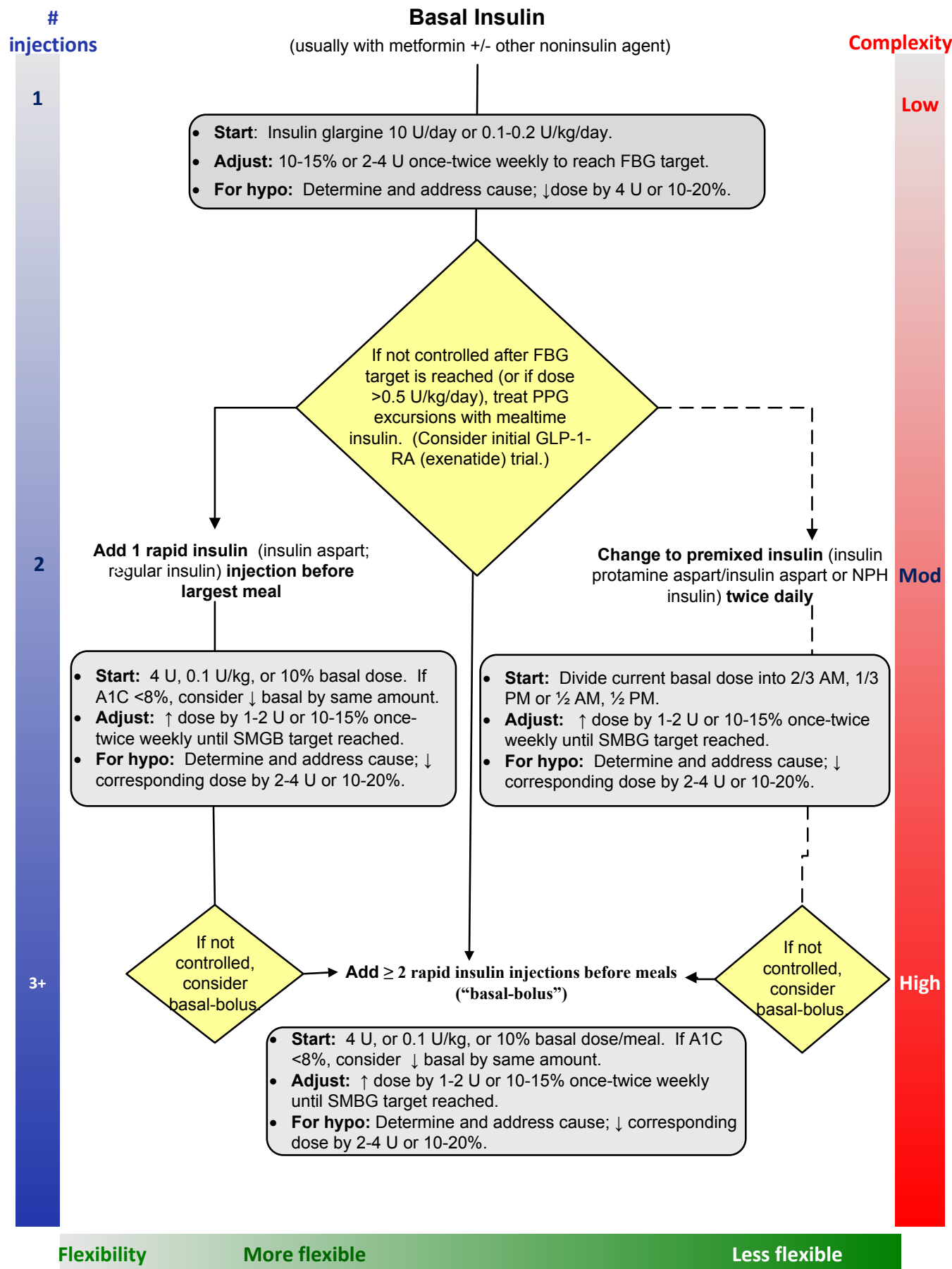


References

1. ADA 2014 Guidelines; Metformin: Preferred initial therapy (if tolerated and not contraindicated)
 2. ADA 2014 Guidelines; Add second oral agent, GLP-1 receptor agonist, or insulin If non-insulin monotherapy at maximum tolerated dose does not achieve or maintain A1c target over 3 mos.
 3. ADA 2014 Guidelines; Consider insulin therapy with or without other agents at outset in newly diagnosed patients with markedly symptomatic and/or elevated BG levels or A1C
 4. ADA 2015 Standards of Care; Summary of glycemic recommendations for nonpregnant adults with diabetes
- † More or less stringent glycemic controls may be appropriate for individual patients. Goals should be individualized based on duration of diabetes, age/life expectancy co-morbid conditions, known CVD or advanced microvascular complications, hypoglycemia unawareness, and individual patient considerations. (See Glycemic Targets Chart on the Document Library)
- ‡ Postprandial glucose may be targeted if A1c goals are not met despite reaching preprandial glucose goals.

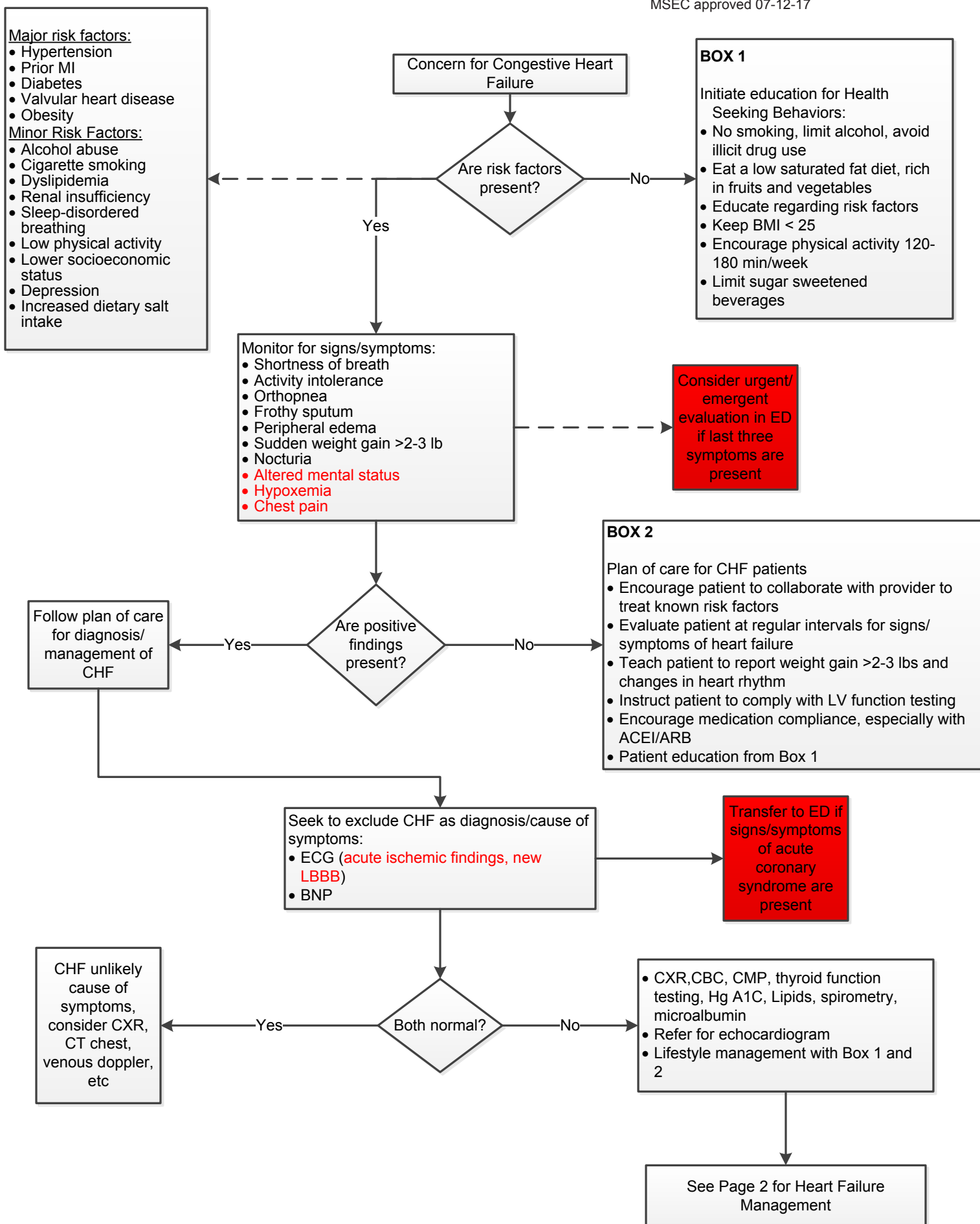
Type 2 Diabetes

MSEC approved March, 2015



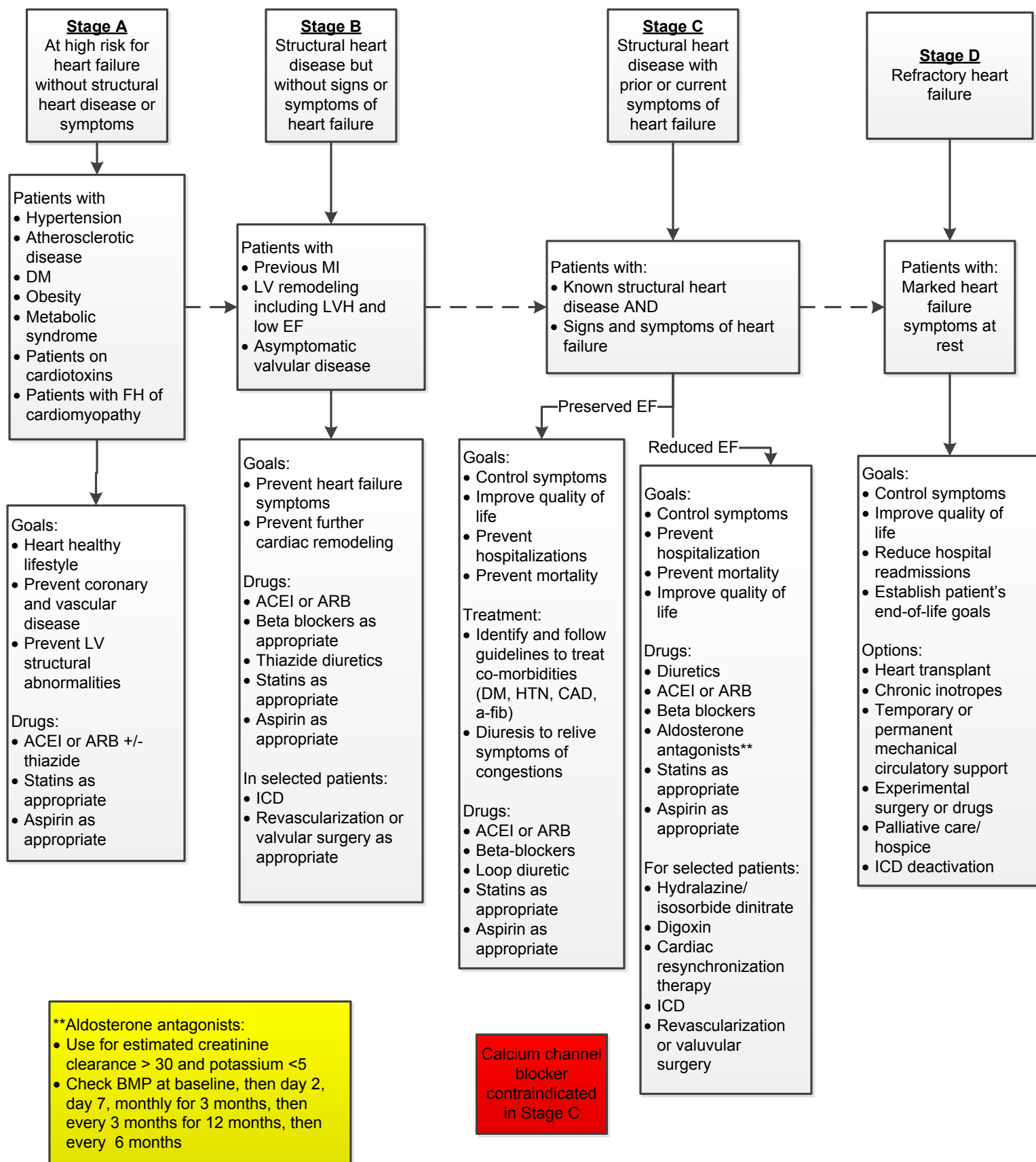
Congestive Heart Failure, p.1

MSEC approved 07-12-17



Congestive Heart Failure, p.2

MSEC approved 07-12-17



Dyspepsia – H. Pylori

MSEC approved 9/21/17

Background Information:

- 75% of the AN/AI population is colonized with H. Pylori (range 61-84%)
- Screening or testing for H. Pylori for routine evaluation of dyspepsia or other GI symptoms is not clinically useful or supported by evidence for high prevalence populations
- For routine clinical practice, there is **insufficient evidence-based data** to support community-wide eradication as a mechanism for gastric cancer prevention
- Current literature **DO NOT** support a test and treat method

Pediatrics:

- Goal is to determine underlying cause of symptoms, not solely the presence of H. Pylori infection
- Diagnostic testing is NOT recommended with functional abdominal pain
- Consider formal consult with Gastroenterology

Pregnancy and Lactation:

- Delay treatment until after pregnancy
- DO NOT use in Pregnancy: bismuth and tetracycline
- DO NOT use in lactation: bismuth, metronidazole, levofloxacin

H. Pylori identified by histology and/or CLO test from EGD

AND

Endoscopy reveals the following:

- Duodenal ulcers
- Gastric ulcer
- MALT lymphoma
- Intestinal metaplasia

Treat for H. Pylori with antibiotics

****All treatment is for 14 days****

Preferred Treatment:

Metronidazole 500 mg PO QID
Amoxicillin 1000 mg PO BID
Omeprazole 20 mg PO BID
Bismuth subsalicylate 524 mg PO QID

PCN allergic (anaphylactic):

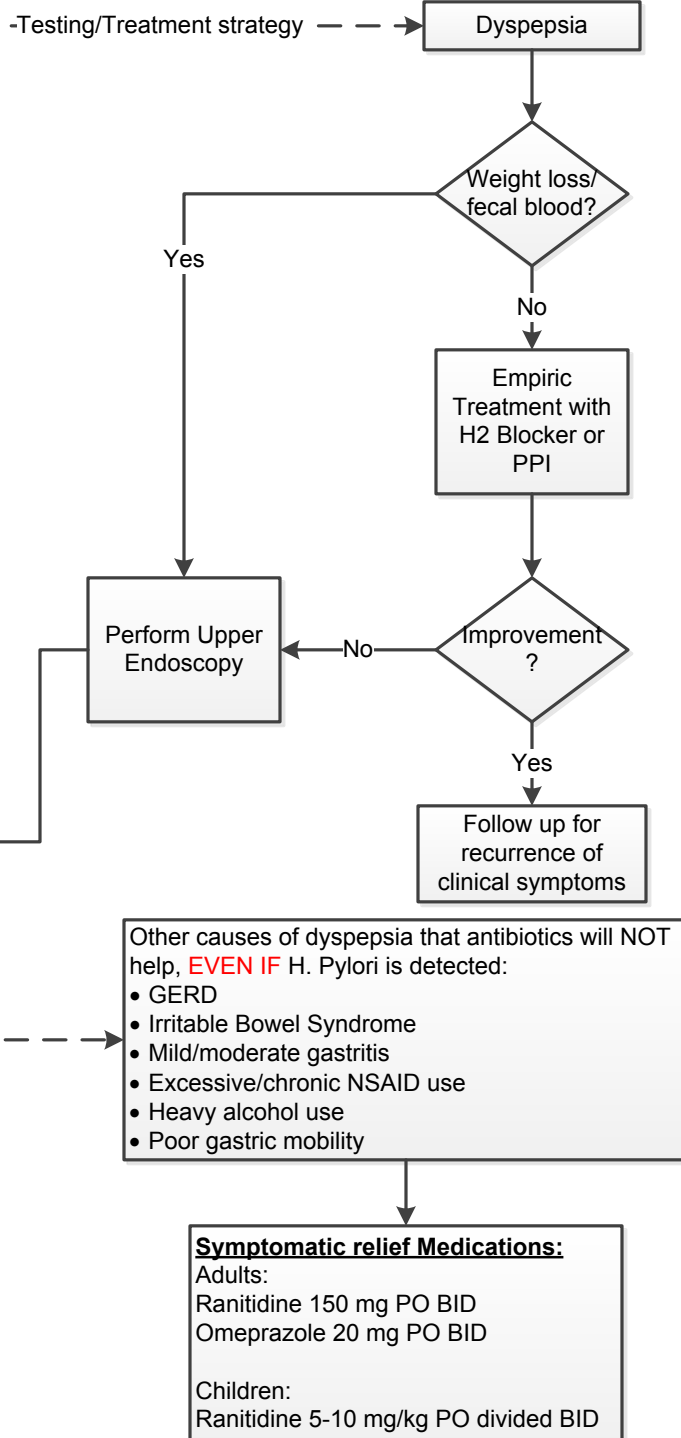
Metronidazole 500 mg PO QID
Doxycycline 100 mg PO BID
Omeprazole 20 mg PO BID
Bismuth subsalicylate 524 mg PO QID

Recurrence/Failure:

Metronidazole 500 mg PO QID
Doxycycline 100 mg PO BID
Omeprazole 20 mg PO BID
Bismuth subsalicylate 524 mg PO QID
OR
Amoxicillin 1000 mg PO BID
Levofloxacin 500 mg PO daily (FDA Black Box)
Omeprazole 20 mg PO BID

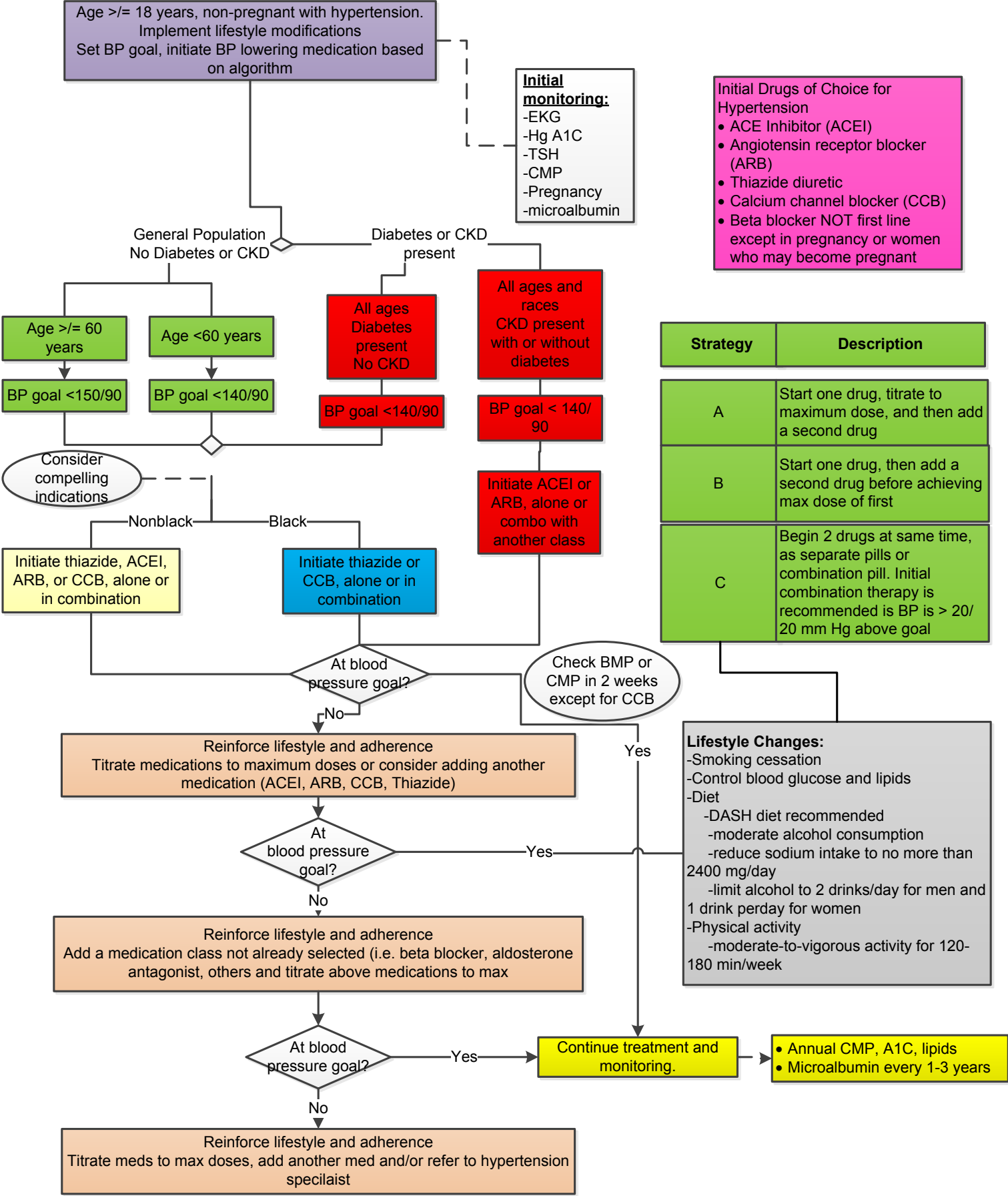
Eradication Testing:

- UBT for *Test of Cure* is necessary to determine need for retreatment
- 10-35% of individuals will fail treatment
- Serologic testing is not recommended due to prolonged antibody persistence beyond date of cure and false positive results
- Must be off PPI for ≥ 2 weeks prior to UBT



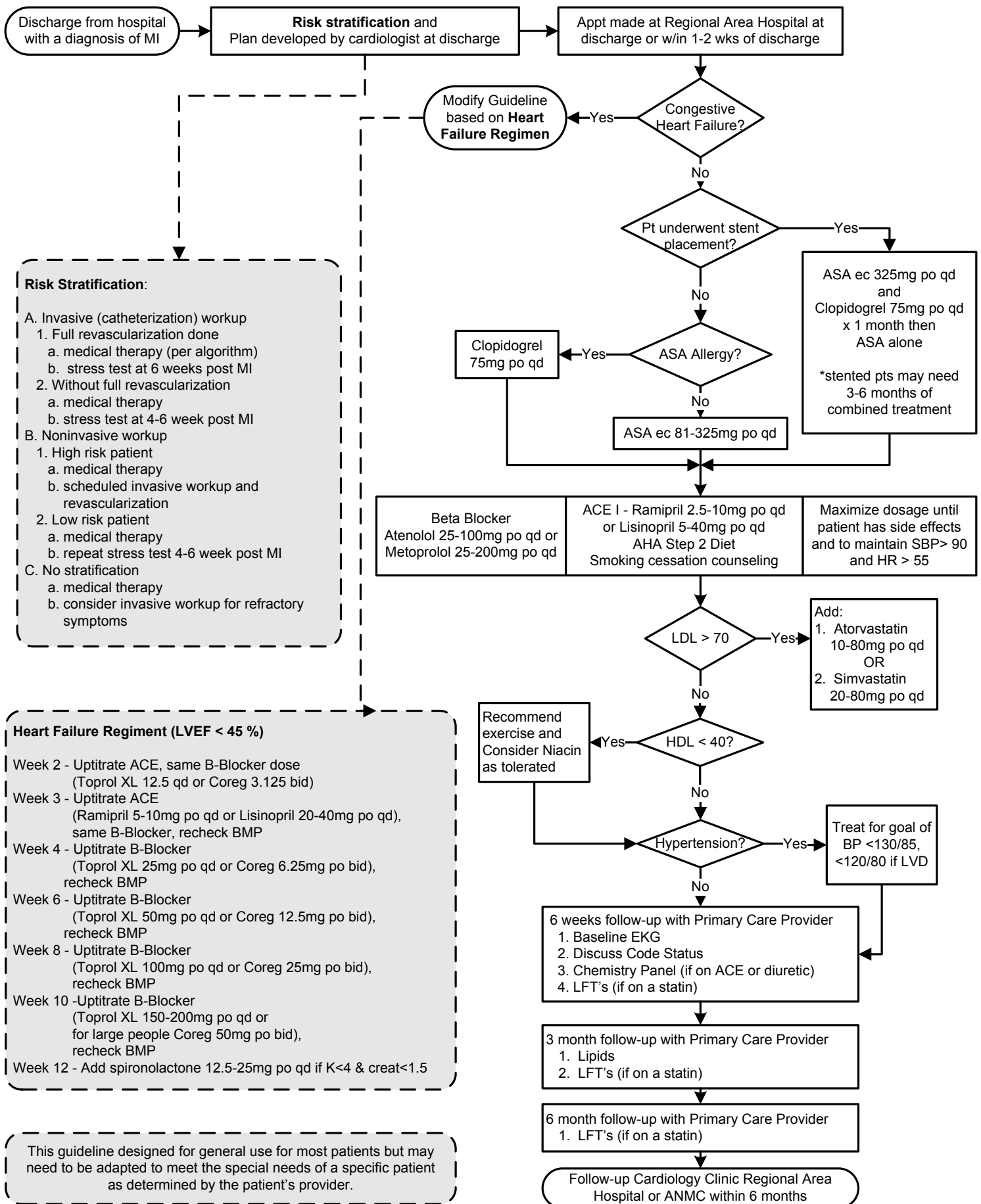
Hypertension

MSEC approved 06/17



Myocardial Infarction (AMI) – Post Discharge Care

MSEC approved 06/22/11



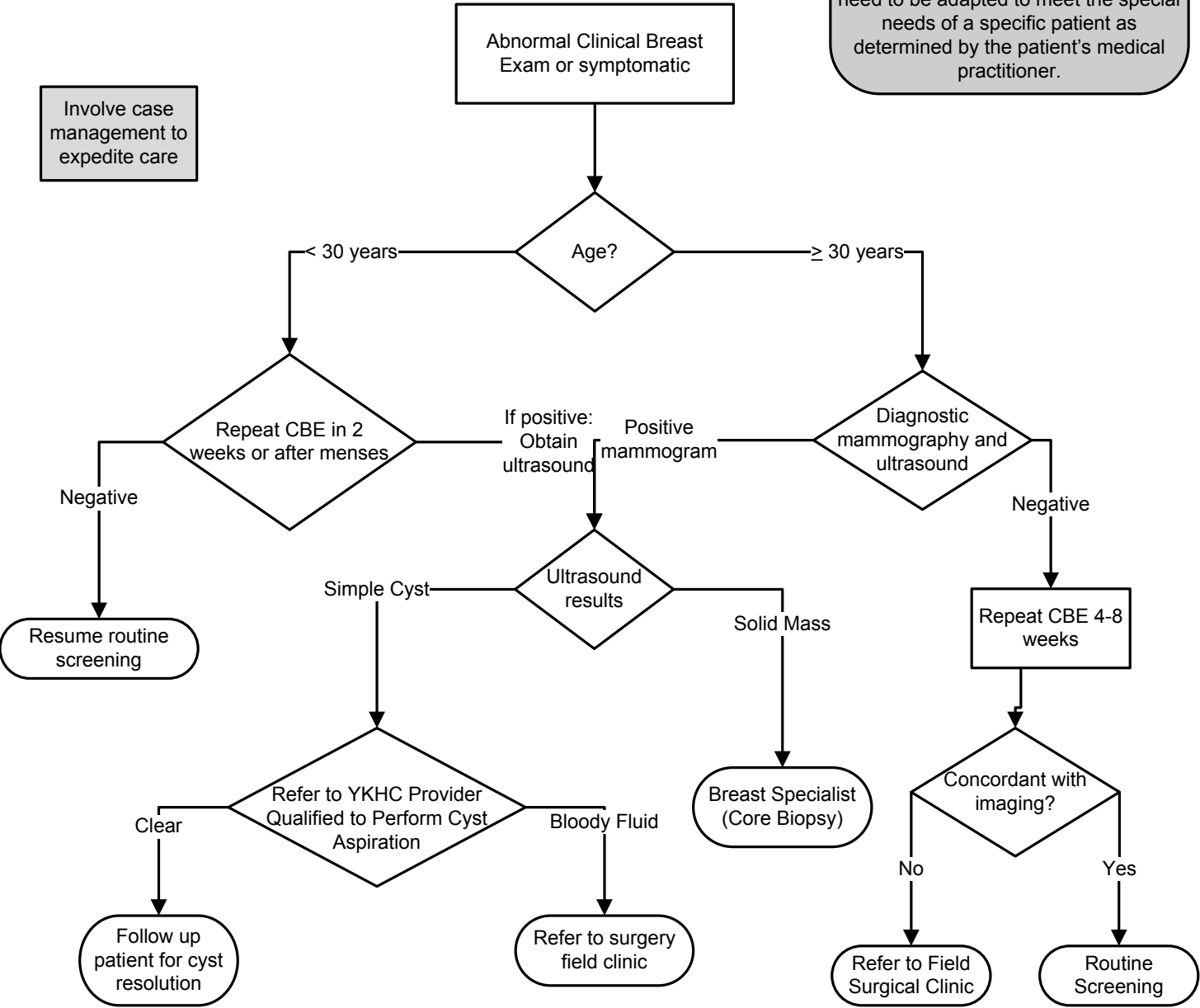
Breast Cancer Screening

MSEC approved 06/22/11

Clinical Breast Exam Screening Recommendations:
1. Breast self-examination: at provider's discretion
2. Clinical breast examination: at provider's discretion
3. Mammography: start age 45
screen every 2 years
end screening at age 70, based on health status

This guideline is designed for the general use of most patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's medical practitioner.

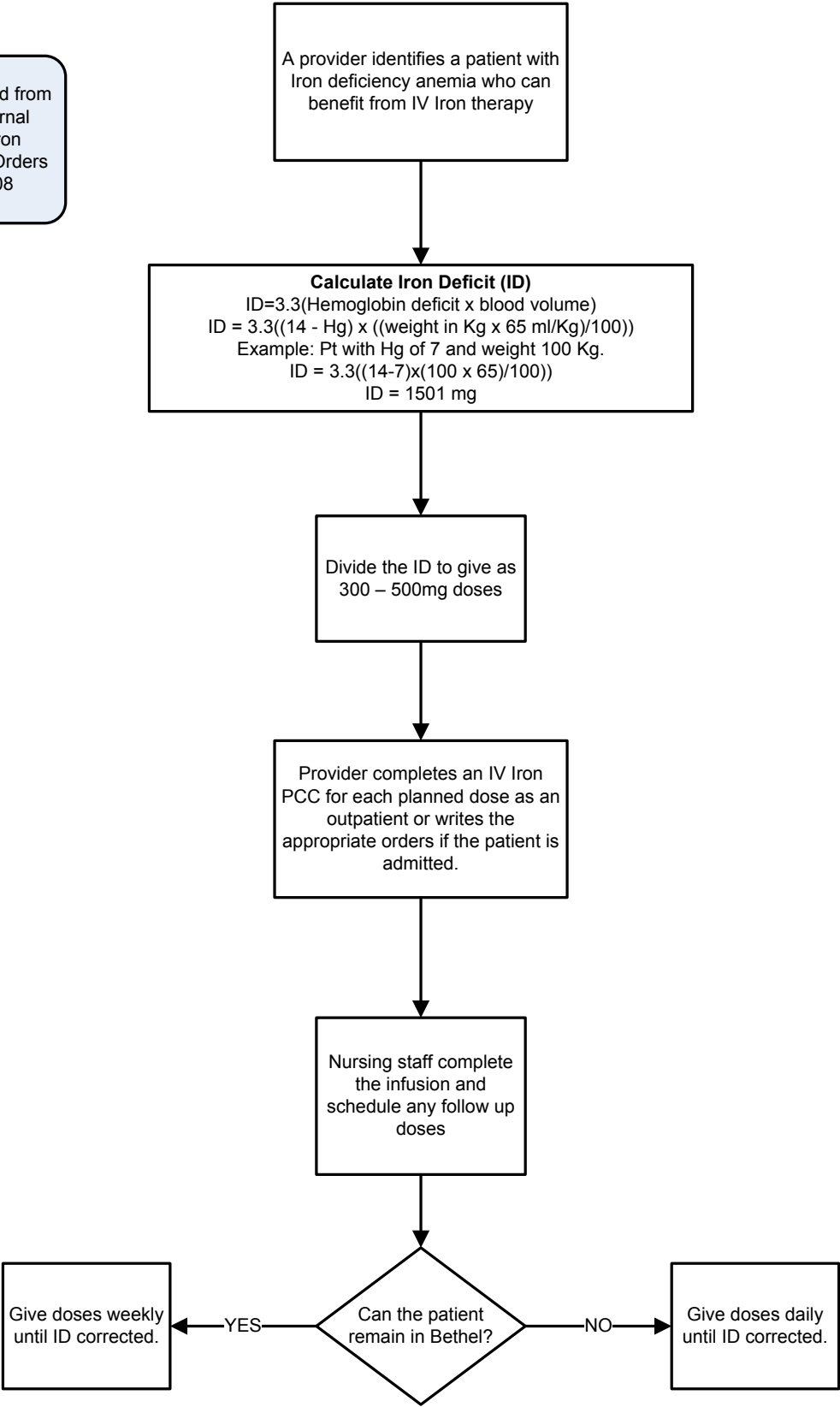
Involve case management to expedite care



IV Iron

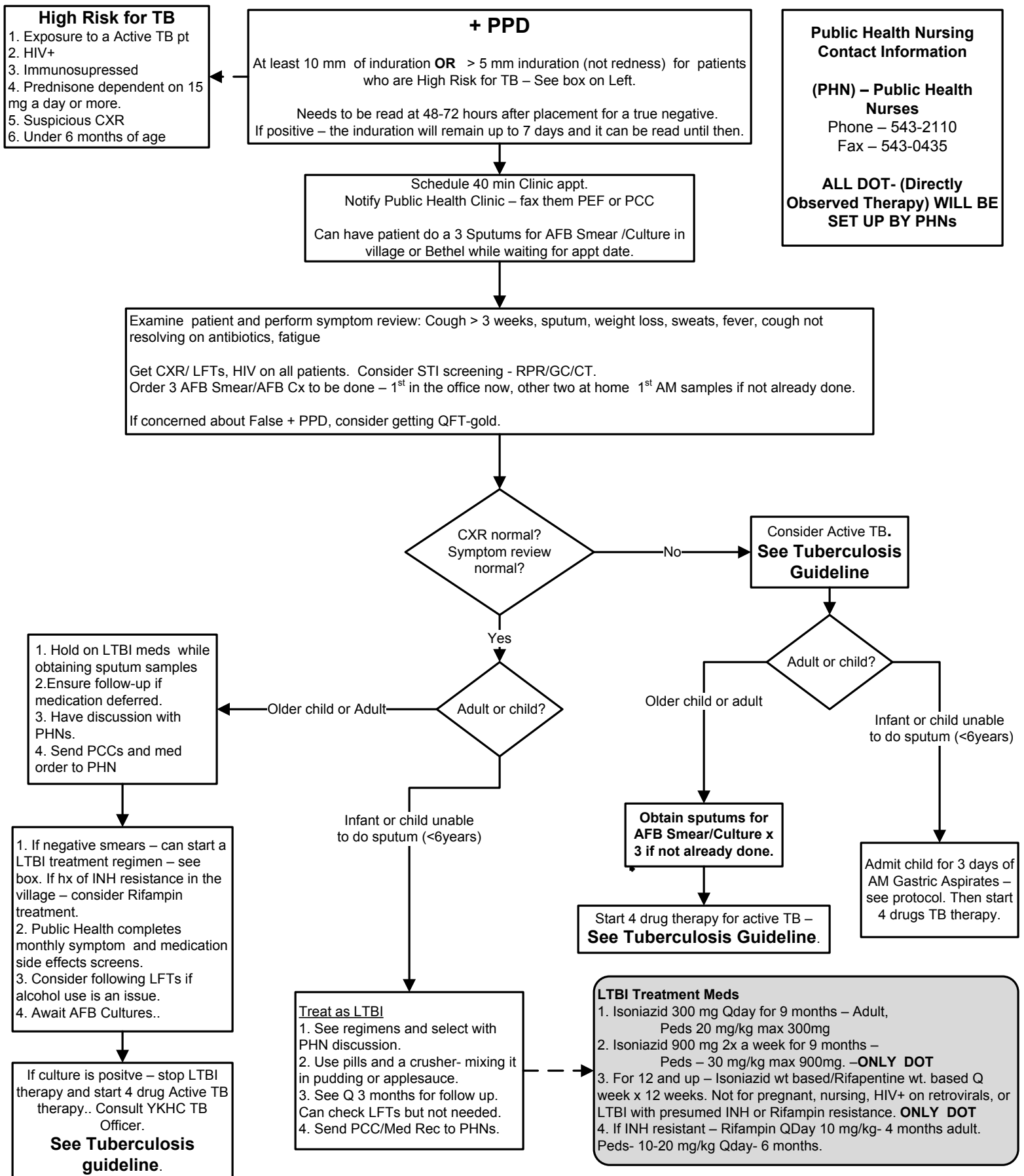
MSEC approved 06/22/11

This Policy is adapted from ANMC policy, Internal Medicine Clinic Iron Deficiency Anemia Orders Approved 6/18/08



Latent Tuberculosis Bacterial Infection (LTBI)

MSEC Approved 4/19/12



CLINICAL
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Outpatient Protocols

Colon Cancer Screening 105

Contraception – Quick Start 106

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Chronic Pain – Non Narcotics Treatment 108–111

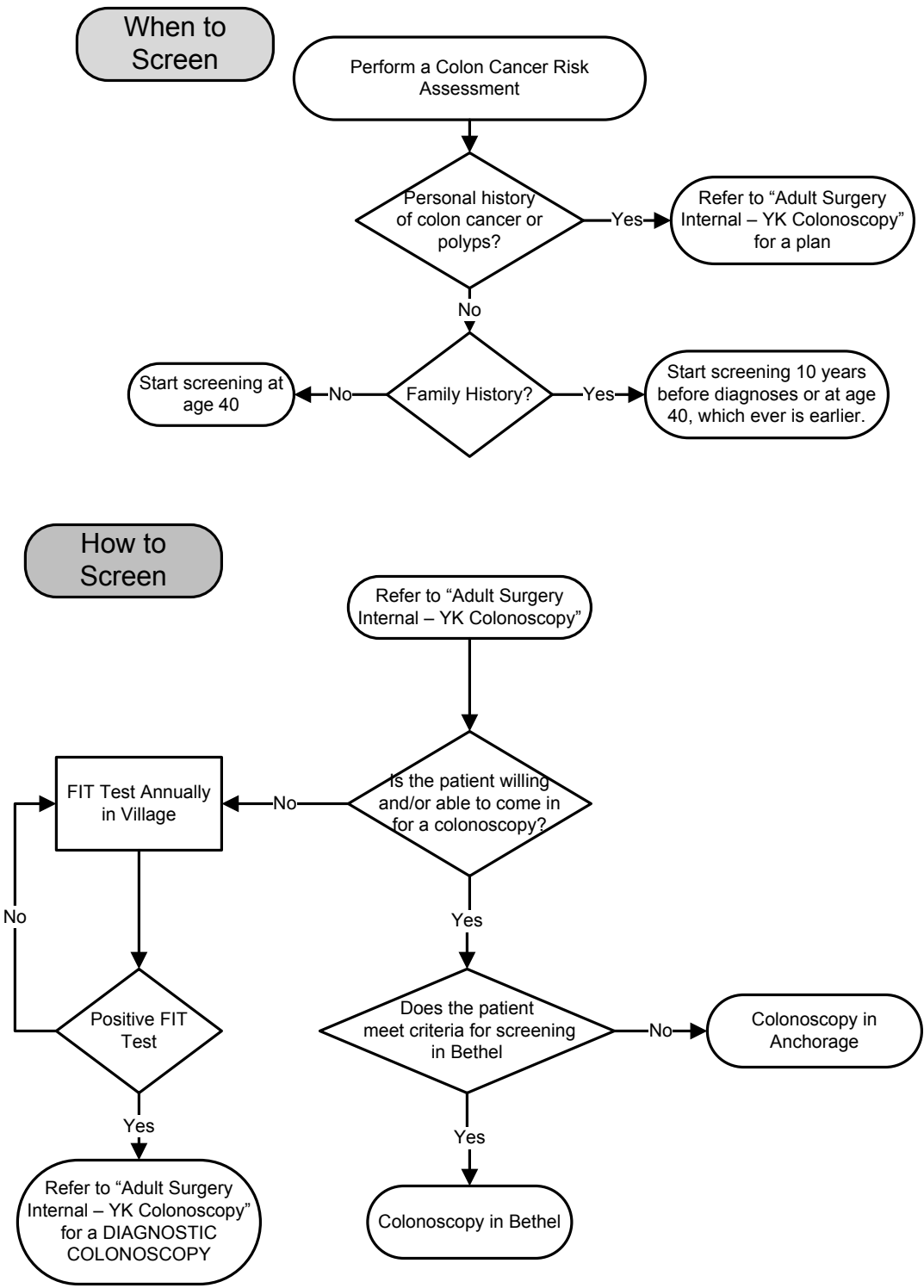
Chronic Pain – Reassessment & Follow-Up. 112

Cervical Cancer Screening Protocol. 113

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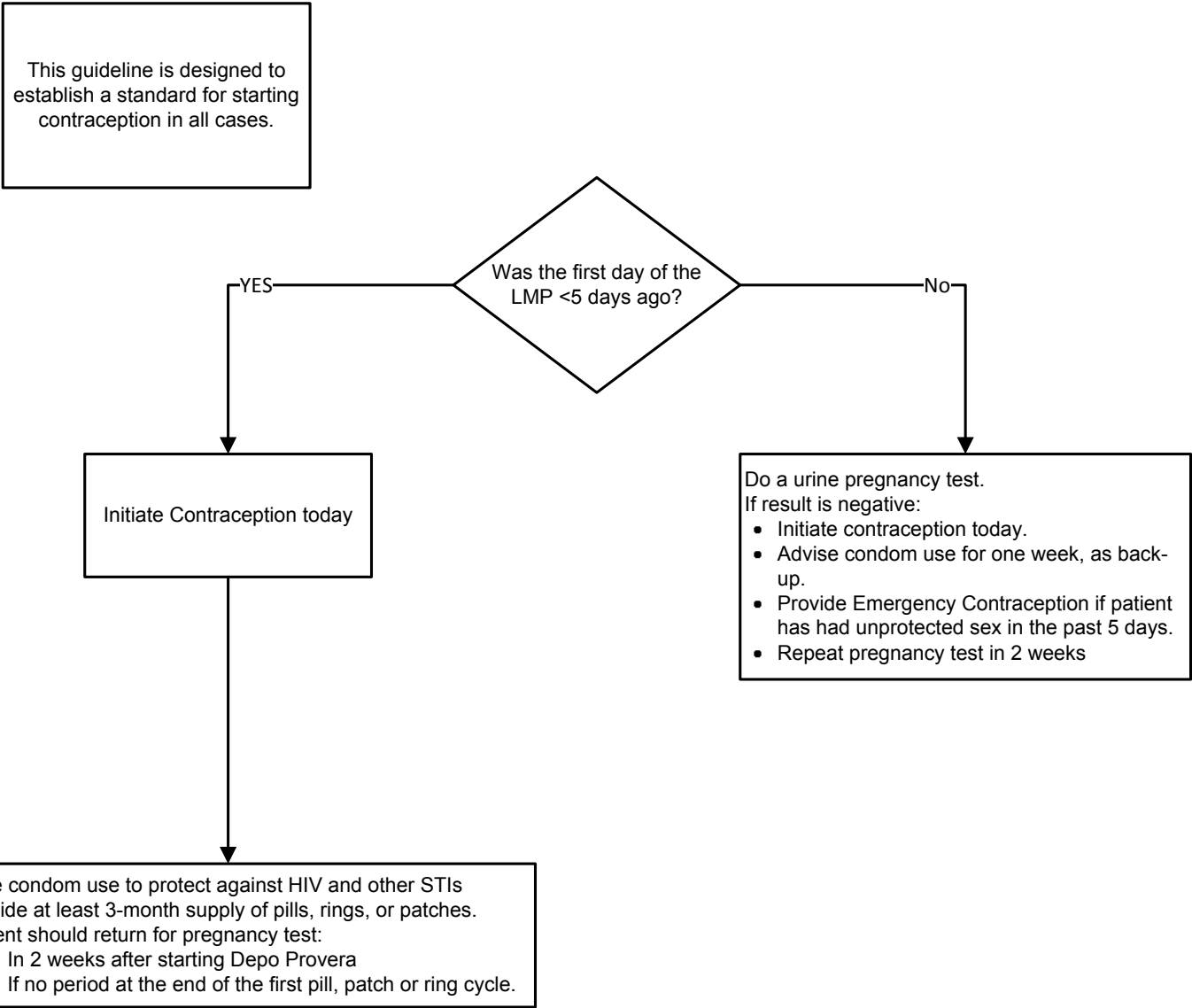
Colon Cancer Screening

MSEC Approved 12/14/16



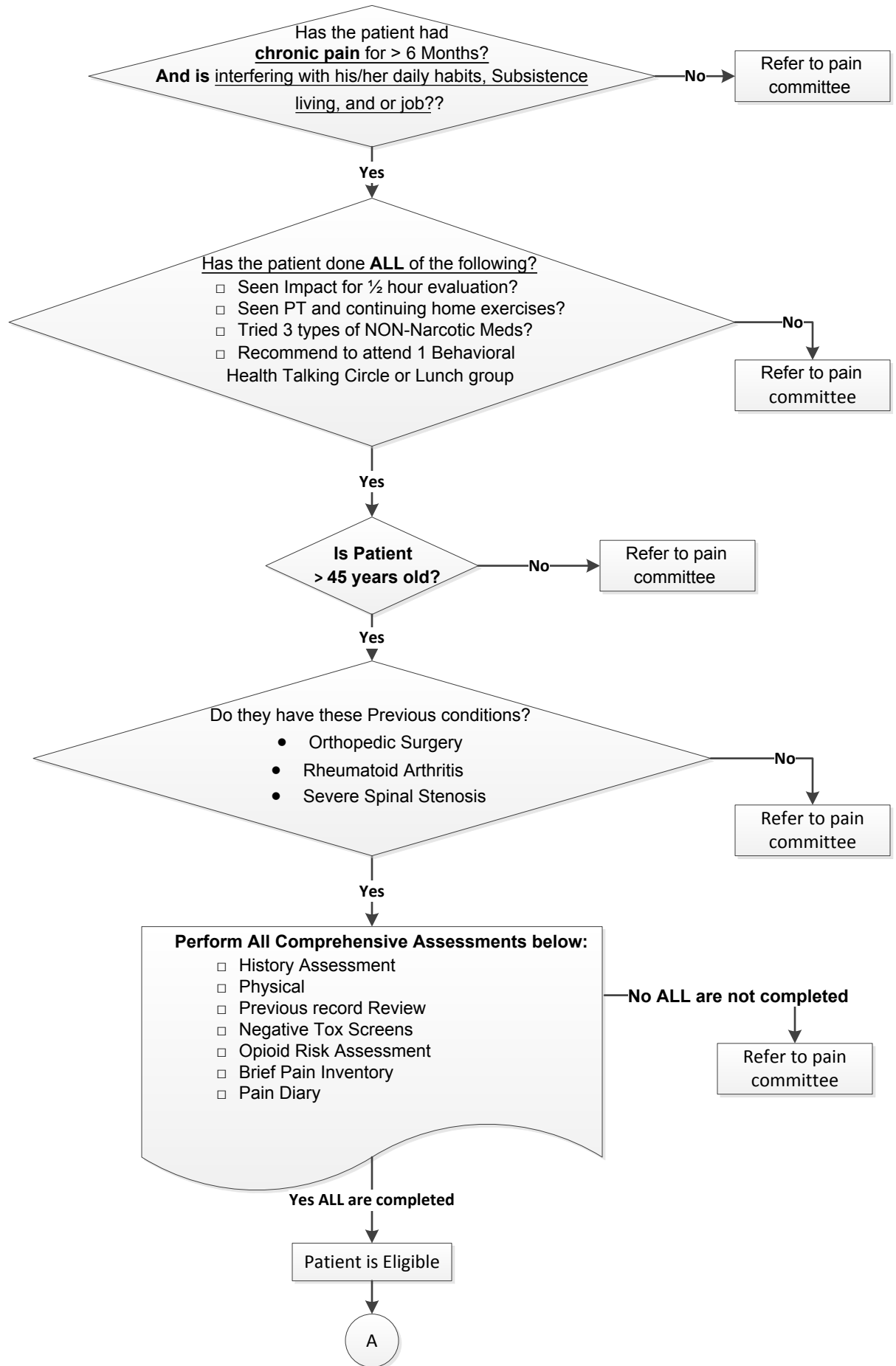
Contraception – Quick Start

3/25/13



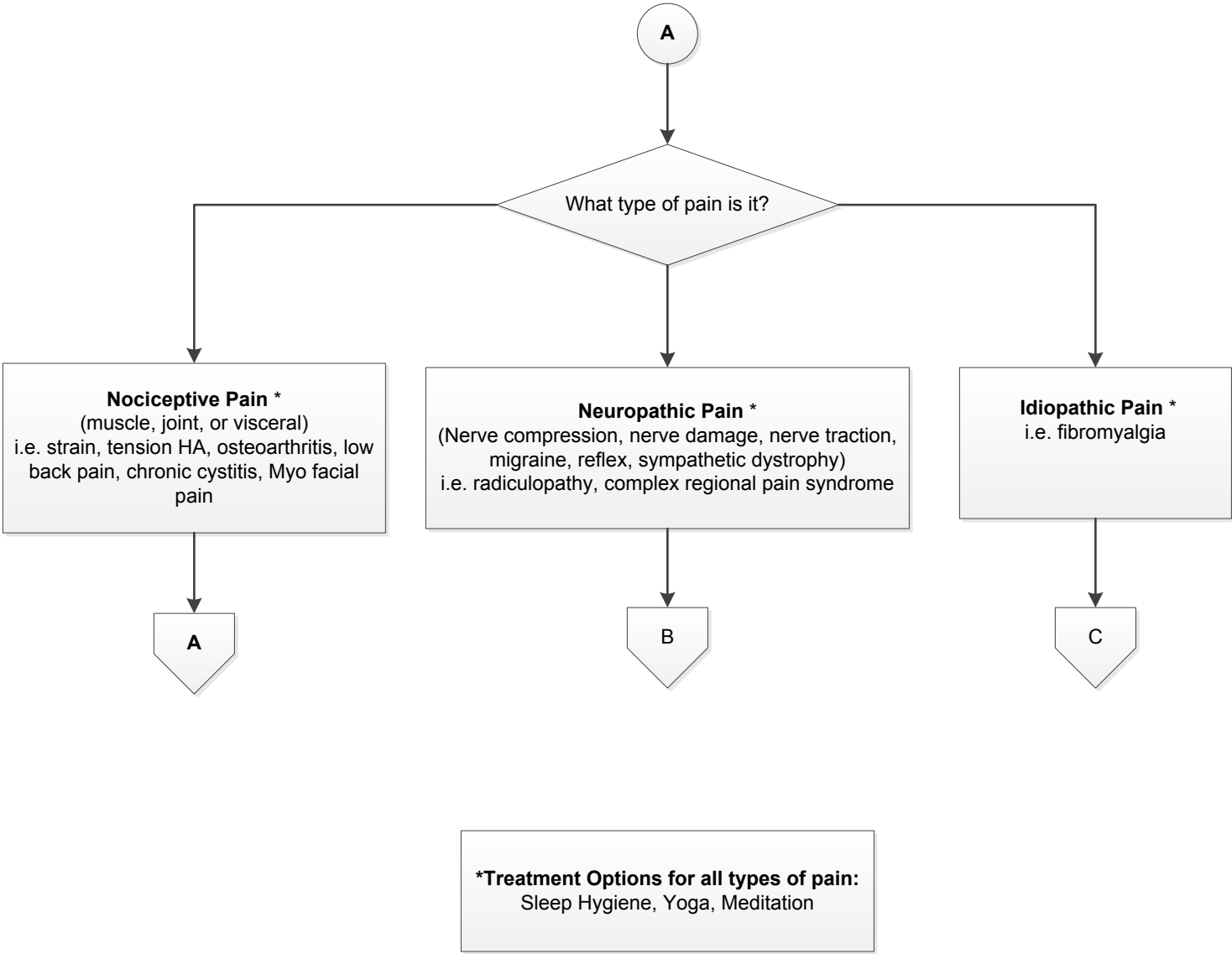
Chronic Pain – Narcotic Treatment Eligibility

MSEC Approved 1/ 21/15



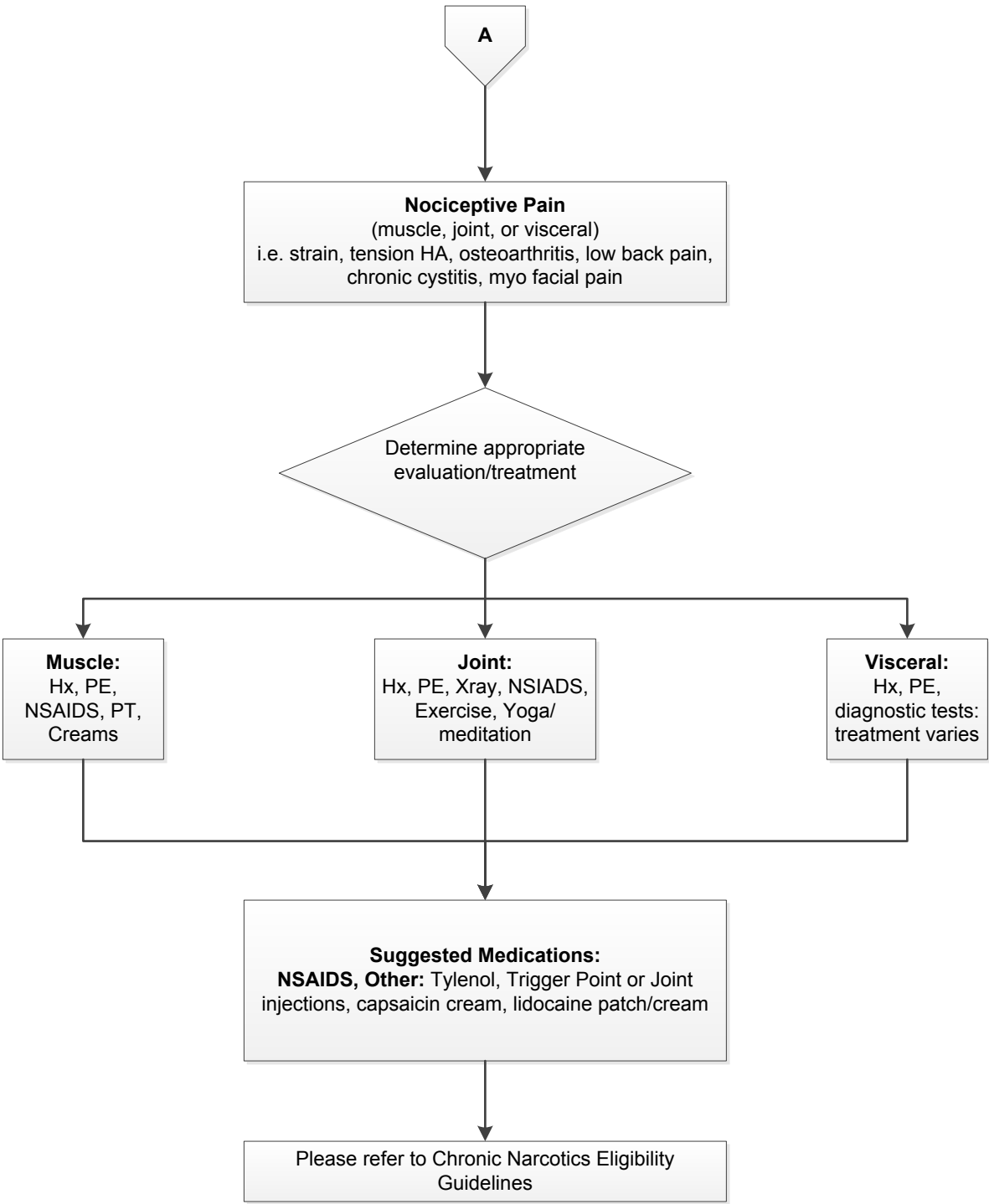
Chronic Pain – Non Narcotics Treatment p.1

MSEC Approved 1/ 21/15



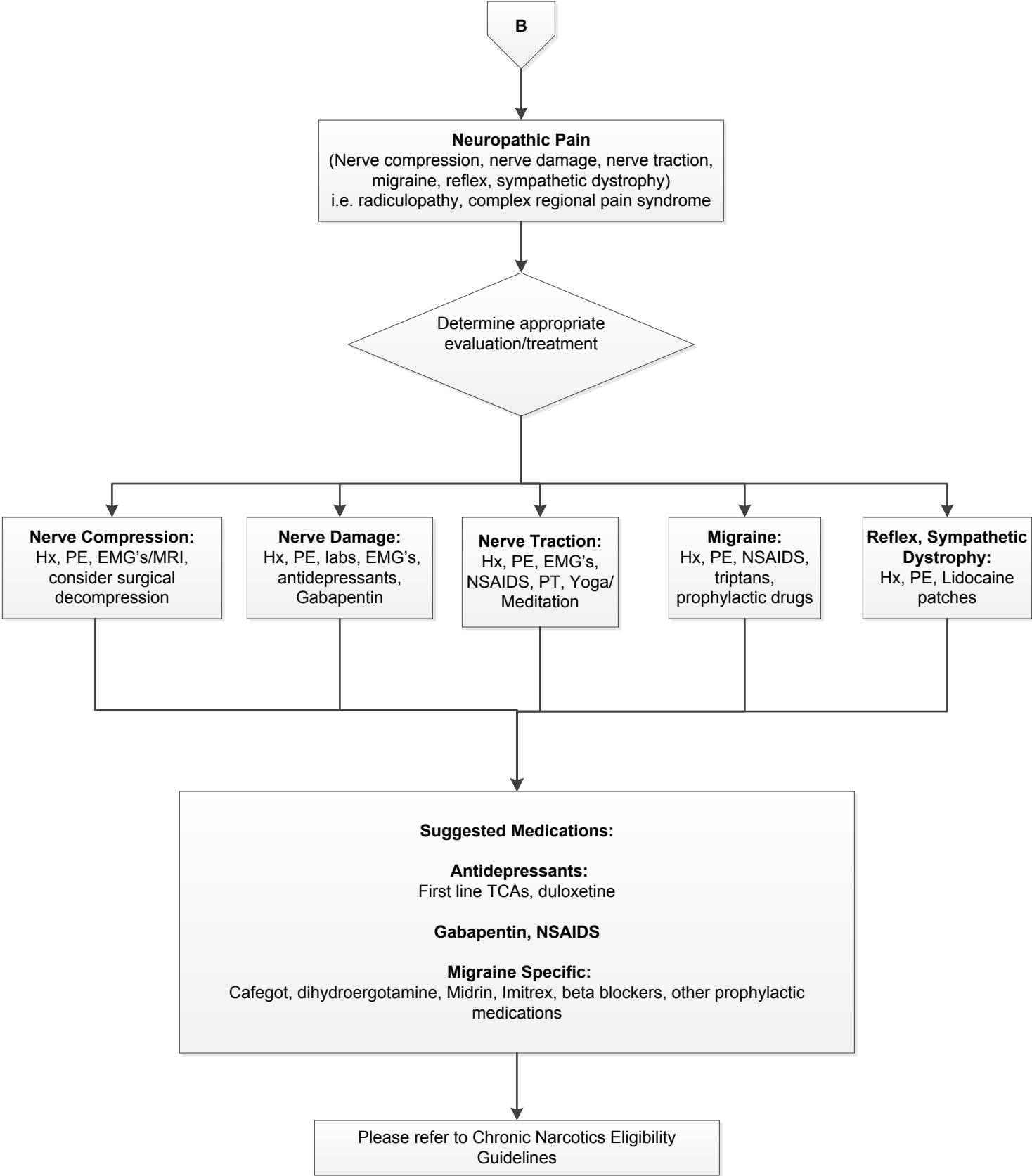
Chronic Pain – Non Narcotics Treatment p.2

MSEC Approved 1/ 21/15



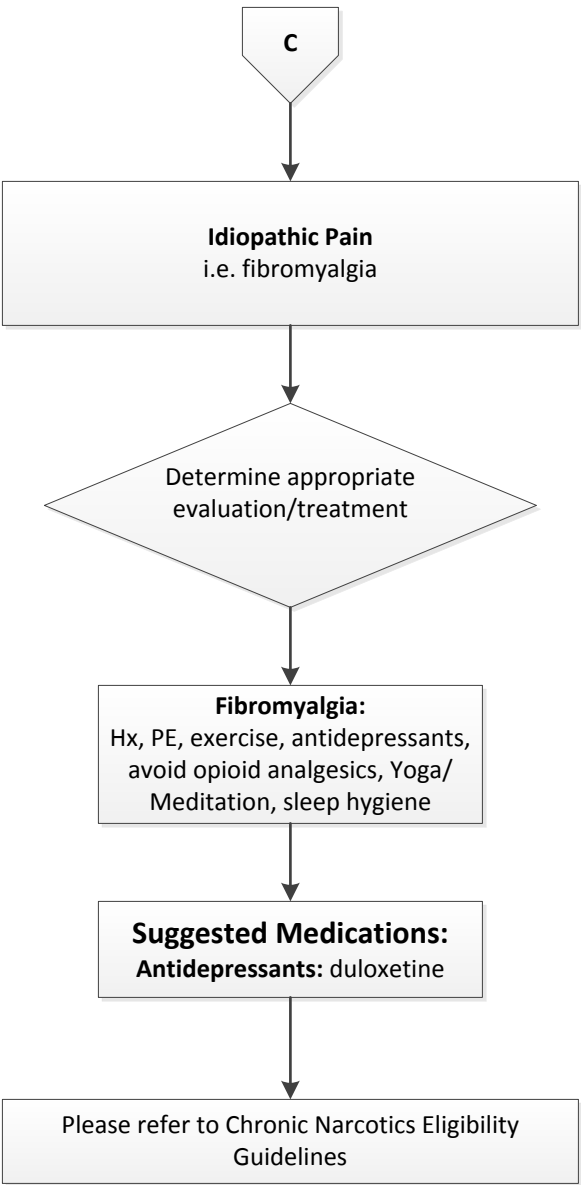
Chronic Pain – Non Narcotics Treatment p.3

MSEC Approved 1/ 21/15



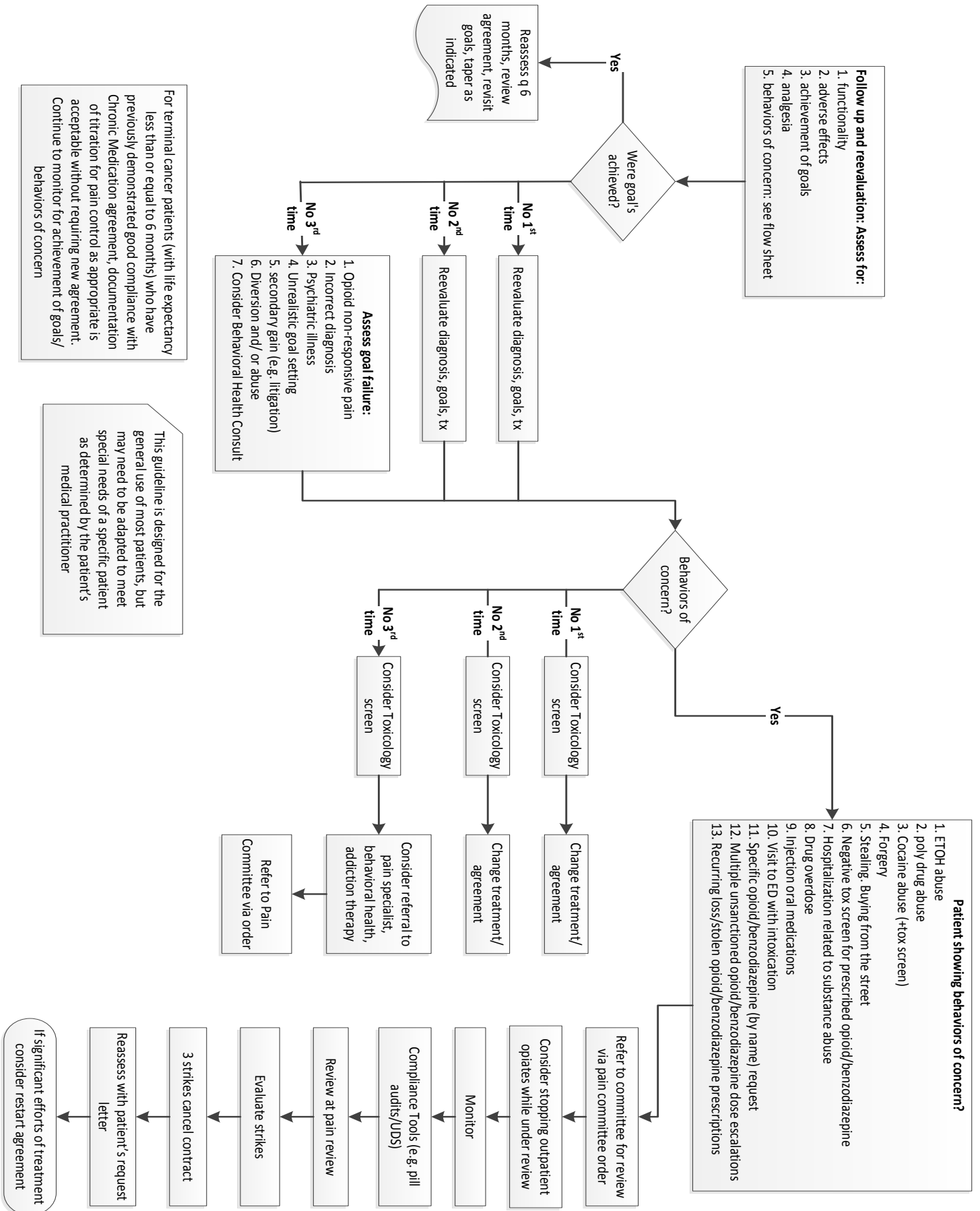
Chronic Pain – Non Narcotics Treatment p.4

MSEC Approved 1/ 21/15



Chronic Pain – Reassessment & Follow-Up

MSEC Approved 1/ 21/15



Cervical Cancer Screening Protocol

Coming Soon

Pre-Anesthesia Testing, p.1

2015

AGE	Hb/Hct	Coags	Lytes	Bun/Cr	Gluc	LFT's	EKG	CXR
0 - 59	No routine testing needed in this age group.							
> 60							X	
75 - 99	X		X	X	X		X	

DISEASE	Hb/Hct	Coags	Lytes	Bun/Cr	Gluc	LFT's	EKG	CXR	T&S
Hypertension			X				X		
Card - Mod	X		X	X			X		
Card - Severe	X		X	X			X	X	
Pulm - Mild									
Pulm - Severe	X						X	X	
Smoke > 20yr	X								
Malignancy	X								
Lymphoma								X	
Heptic	X	X	X			X			
Renal	X	X	X	X					
Bleeding	X(cbc)	X							
Diabetes			X	X	X		X		
Expected Blood Loss	X								X

MEDICATION	Hb/Hct	Coags	Lytes	Bun/Cr	Gluc	LFT's	EKG	CXR
Diuretic			X	X				
BP Meds			X	X			X	
Cardiac Meds			X	X			X	
Steroids			X		X			
Anticoagulants	X	X						

Other

Urine HCG: Needed within 48 hours of surgery in women of childbearing age (13–50).

Drug Levels: Level drawn on all patients on Digoxin and Dilantin.

CXR: Recent change in sputum quality or color, pneumonia in past 3 months, chronic home O2 use, planned intrathoracic surgery, or if exam reveals rales, rhonchi, or wheezes

Surgical Risk Screening Protocol Orders

1. Patients who are not to be scheduled at YKHC:

a. Patients with BMI > 45 (Up to BMI of 45 is acceptable if no significant, unstable CV, respiratory, or endocrine Pathology is present)

- English BMI Formula = (Weight in pounds / (Height in inches) x (Height in inches)) x 703
- Metric BMI Formula = (Weight in Kilograms / (Height in Meters) x (Height in Meters))

b. Obstructive Sleep Apnea Perioperative Risk Score of 5 or 6.

2. Preventive antibiotic therapy will be administered within one hour prior to skin incision per protocol pre-operatively, based on procedure type and patients allergies, unless otherwise ordered by physician.

3. DVT/VTE prevention methods will be implemented using SCIP Mechanical Prophylaxis Protocol unless contraindicated or otherwise documented in orders by physician.

Diabetes Management

1. Discontinue all oral agents the evening prior to surgery, except Metformin which can be taken the evening prior to surgery but not to day of surgery.

2. Discontinue insulin after midnight for AM surgeries.

3. Take 1/2 usual dose of insulin the AM of surgery if surgery is scheduled to start at noon or later.

4. Take 100% of Lantus insulin up to time of surgery.

5. Consume apple or cranberry juice up till 2 hours prior to arrival to surgery if insulin was used.

6. For insulin pumps, set to basal rate and continue throughout pre-operative period.

7. Arrival to Holding Area, Glucose will be obtained. Results treated by anesthesia.

continued on next page.

Pre-Anesthesia Testing, p.2

2015

NPO Guidelines:

The pre-operative nurse will instruct all patients to be NPO after midnight and to follow the surgeon's instructions if they differ from these.

The surgeon who gives different instructions will be responsible for thorough patient instruction of anything other than these guidelines.

1. All patients are equal with regard to NPO guidelines (i.e. gastric emptying time, obesity)
2. Clear liquids may be consumed up to 2 hours prior to scheduled arrival time.
3. Clear liquids are water, black coffee, and beverages not cloudy and can be seen through. Sugar and artificial sweeteners are acceptable. All broths are NOT acceptable.
4. Patient may brush their teeth, but should not swallow tooth paste.
5. Gum and candy of any type are not allowed.
6. All patients will be allowed to eat a full, regular diet (solid) up to 8 hours prior to surgery. Patient going to the OR at 0730 who were NPO after midnight are considered to meet this standard.
7. Infants up to 24 months of age will be allowed breast milk up to 4 hours prior to the arrival to the hospital. Infant formula will be considered a solid.

Table 4. Estimated Energy Requirements for Various Activities, Based on Duke Activity Status Index*

1 MET	Can you...	
		take care of yourself?
		eat, dress, or use the toilet?"
		walk indoors around the house?
		walk 1 or 2 blocks on level ground at 2-3 mph (3.2 - 4.8 KPH)?
<4 METs	Can you...	
		do light work around the house, such as dusting or washing dishes?
≥4 METs	Can you...	
		climb a flight of stairs or walk up a hill?
		walk on level ground at 4 mph (6.4 kph)?
		run a short distance?
		do heavy work around the house, such as scrubbing floors or lifting or moving furniture?
		participate in moderate recreational activities, such as golf, bowling, dancing, doubles tennis, or throwing a baseball or football?
≥10 METs	Can you...	
		participate in strenuous sports, such as swimming, singles tennis, football, basketball, or skiing?

* MET = metabolic equivalent.

Adapted from J AM Coll Cardiol, with permission from Elsevier.