UCSF Benioff Children's Hospitals

Normal Healthy Pregnancy Where Everything is Fine

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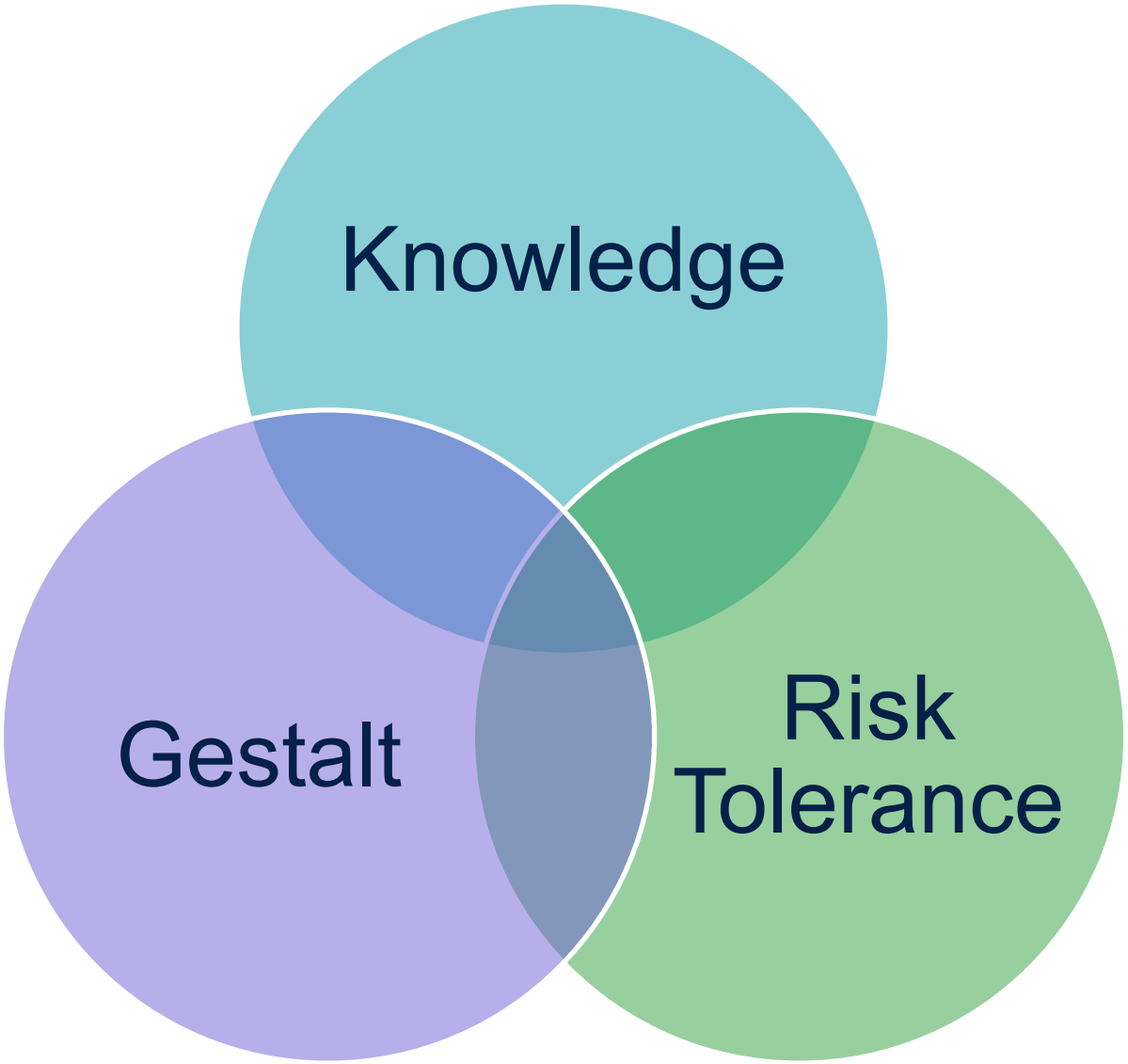
No Disclosures


Knowledge
Gestalt
Risk
Tolerance

Core Cognitive Traps

- Attributing abnormal vitals to pregnancy
- Anchoring on benign explanations
- Avoiding imaging or medications

Goal: risk-informed decisions, not reflexive over-testing

Case 1

- 23 yo with headache + near syncope
  - T 37.8°C, P 103, RR 20, BP 108/70, 98% RA
  - Similar to previous migraines
  - Nausea, vomiting
  - Exam: pale, uncomfortable, neurologically intact

  - Labs?
  - Meds?

Case 1

- 23 yo with migraine + near syncope
  - Positive urine HCG
  - h/o irregular menses
  - Reassuring abdominal exam
  - Serum hCG =6780 mIU/mL

Next steps?

A. Treat migraine + discharge w repeat hCG in 48 hrs
B. Bedside pelvic ultrasound
C. Formal transvaginal ultrasound
D. No imaging
E. Transfer

Formal US: No definite IUP

Plan?

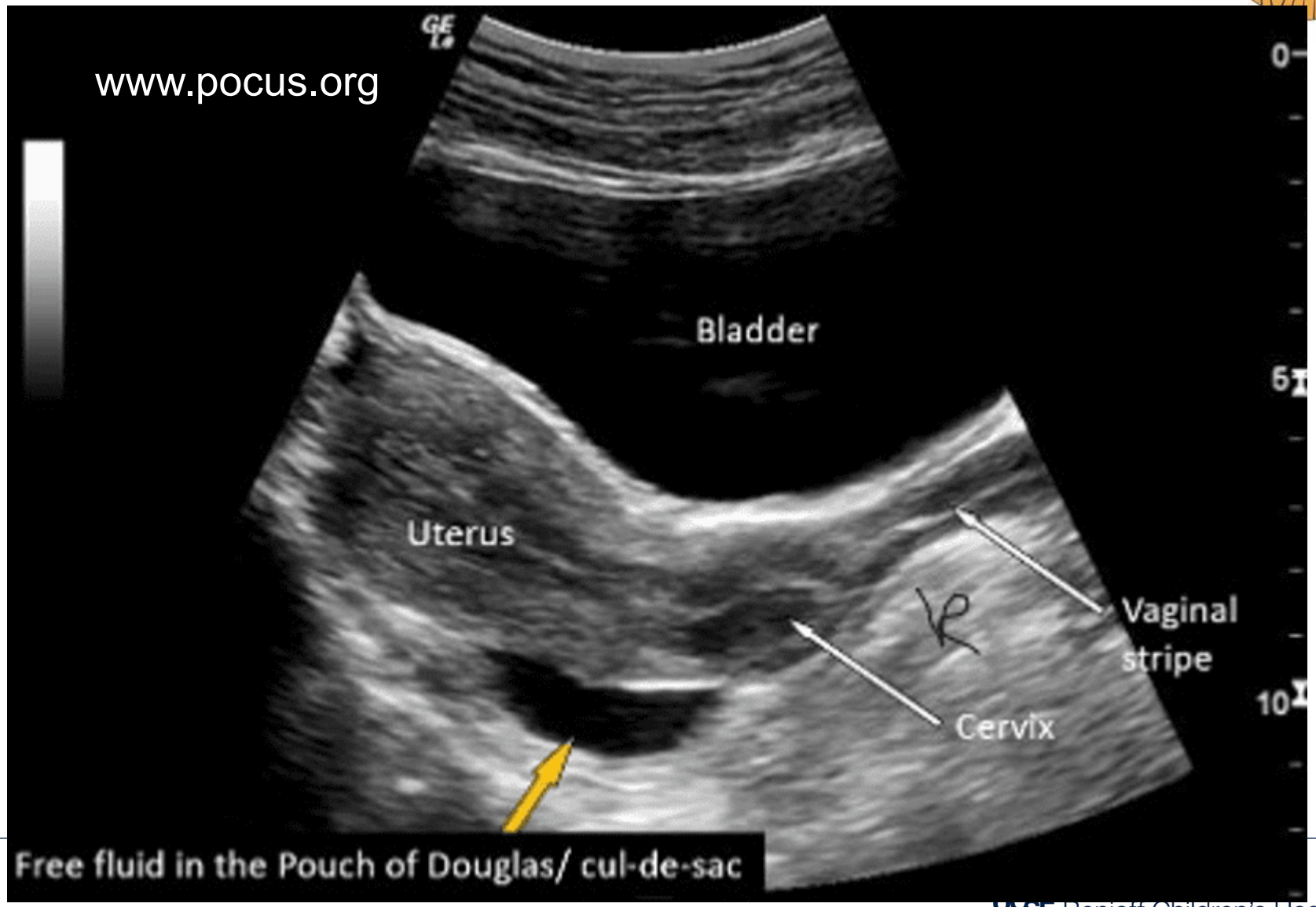
A. Repeat hCG only
B. Discharge with precautions
C. Consult OB
D. MRI pelvis

Case 1 – Myth Busting

- Myth: “hCG too low to need ultrasound"
  - Discriminatory Zone ?

- Reality: rupture can occur at <u>any</u> hCG level
  - No pelvic pain does NOT exclude rupture
    - 10-20% present without localized pelvic pain
  - Syncope may be the presenting symptom
  - US may not show IUP but can detect ectopic / free fluid

Teaching Pearl



Teaching Pearl

Ectopic can occur at any hCG level

- Discriminatory zone ≠ ectopic exclusion zone
- Rupture reported at hCG <100
- Ultrasound indicated for *symptoms* — not hCG level alone
- Pregnancy of unknown location = high-risk diagnosis

Teaching Pearl

Framework for ectopic:

1. Shock vs stable?
2. IUP?
3. HCG level?

Litigation Pitfalls

"Positive HCG + syncope = ectopic until proven otherwise."

Common plaintiff arguments:

- Failure to ultrasound symptomatic pregnant patient
- Overreliance on discriminatory zone
- Anchoring on migraine diagnosis

High-risk documentation gaps:

- No ectopic precautions
- No repeat vitals/ exam before discharge

Charting Pearls

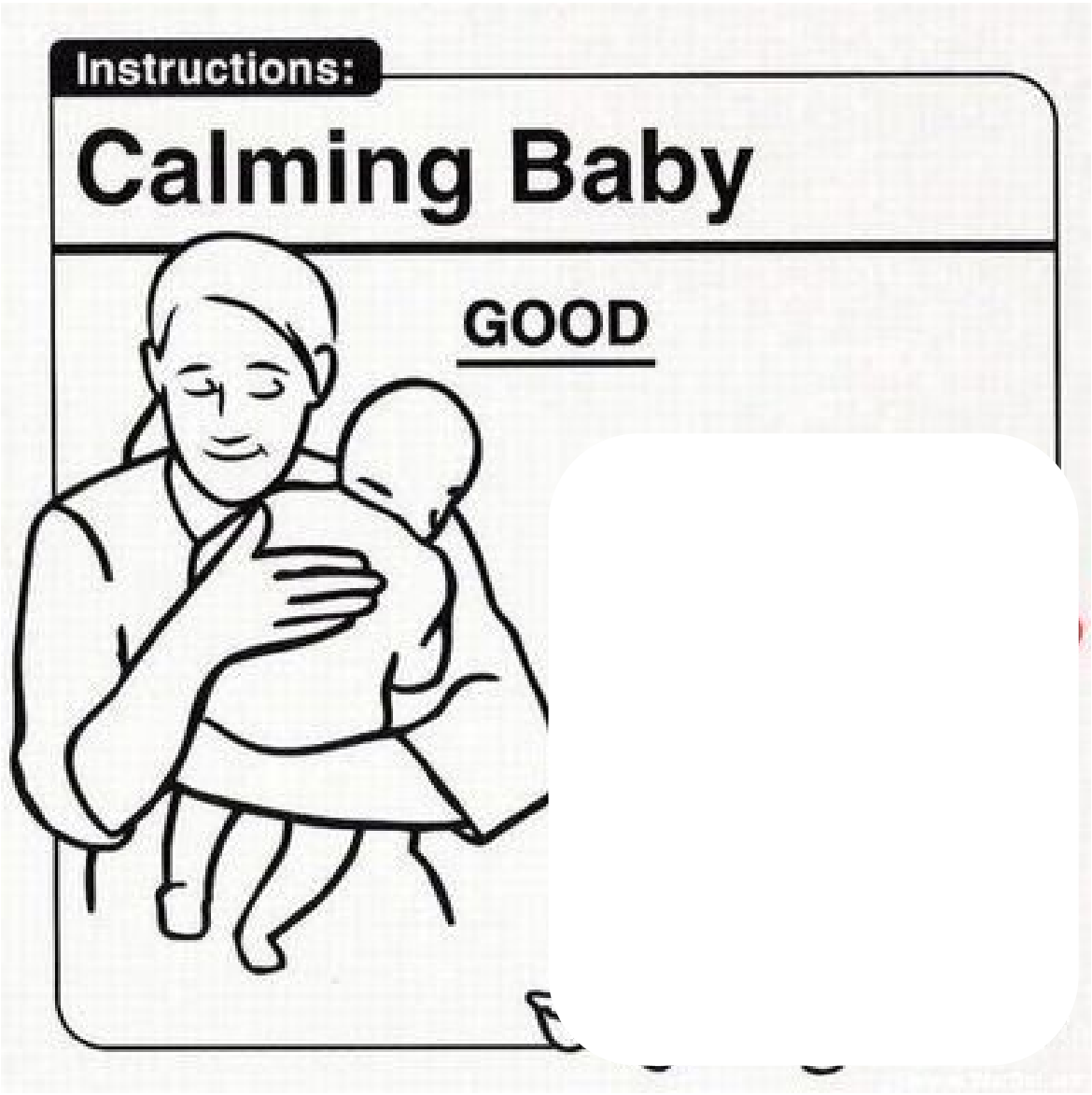
- “Given positive pregnancy test with syncope and indeterminate hCG level, ectopic pregnancy was considered and pelvic ultrasound obtained.”

- “Symptoms not attributed solely to migraine in setting of pregnancy; pelvic ultrasound obtained due to consideration of ectopic pregnancy.”

Instructions:

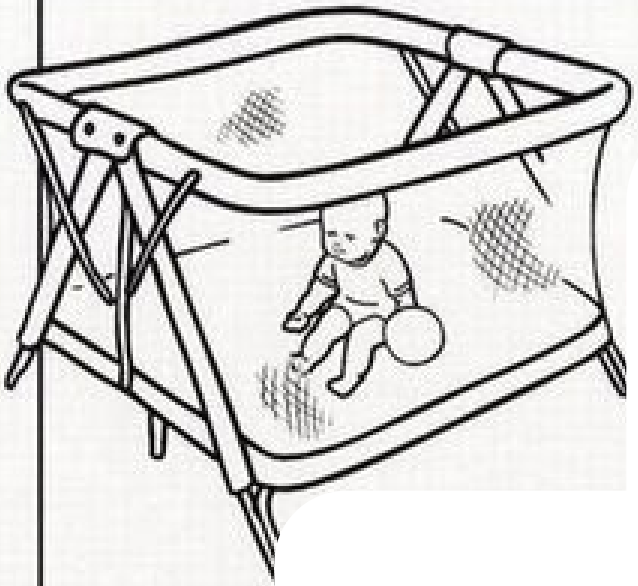
Waking Baby

YES


Instructions:
Calming Baby
GOOD

Instructions:

Containing Baby



YES

Case 2:

- 31 yo G3P2 at 28-week gestation with 4 days of cough and mild SOB
  - T 38°C, HR 118, RR 20, BP 104/64, 94% RA
  - Flu season, kids sick at home
  - PMHx: childhood asthma

  - Exam: faint end-expiratory wheeze
  - Improves after albuterol

Next steps?

A. Discharge with inhaler
B. Steroids + nebs
C. D-dimer
D. PE imaging
E. Observe only

D-dimer in pregnancy

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Pregnancy-Adapted YEARS Algorithm for Diagnosis of Suspected Pulmonary Embolism

L.M. van der Pol, C. Tromeur, I.M. Bistervels, F. Ni Ainle, T. van Bemmel,

Pregnancy adapted YEARS Algorithm

1. Clinical signs DVT
2. Hemoptysis
3. PE most likely dx

Pregnant → US → Abn / Normal

0 → D-dimer 1000 ng/mL

≥ 1 → D-dimer 500 ng/mL

Approximate conversion: FEU = DDU * 2

Adapted from Van der Pol 2019

Case 2 – Myth Busting

- Myth: physiologic tachycardia explains symptoms
- Reality: Abnormal vitals deserve explanation
- Imaging risk < missed PE risk when pre-test probability high
  - LMWH prophylaxis does not prevent PE
  - Imaging is safe when indicated
  - Maternal risk outweighs fetal radiation risk

Teaching Pearl

PE Is a Leading Cause of Maternal Mortality

Key reminders:

- Pregnancy = hypercoagulable state
- Hypoxia is never “physiologic”
- Persistent tachycardia is not “physiologic”
- Imaging thresholds should be lower, not higher

Radiation pearls:

- V/Q often lower breast dose
- Both V/Q and CTPA generally safe in pregnancy

Litigation Pitfalls

Common claims:

- Dyspnea attributed to pregnancy or asthma
- Imaging withheld due to radiation fear
- Failure to risk-stratify tachycardia + hypoxia

Documentation gaps:

- No discussion of PE risk
- No shared decision documentation
- No follow-up plan if discharged

Charting Pearls

- “Persistent tachycardia and borderline hypoxia in pregnancy prompted evaluation for pulmonary embolism despite URI symptoms.”
- “Dyspnea not attributed solely to pregnancy physiology; PE risk assessed.”

Instructions:

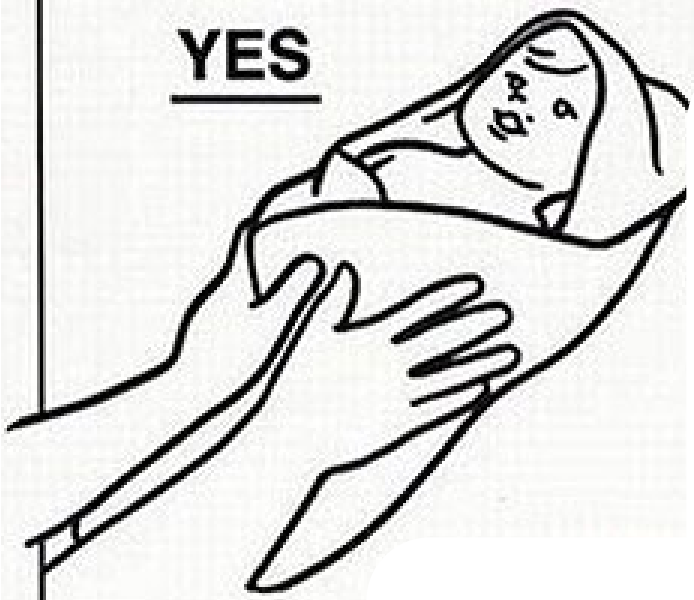
Washing Baby

GOOD

Instructions:

Drying Baby

YES



c00lstuff.com

Instructions:

Introducing Baby to Pets

Case 3:

- 29 yo at 34-weeks gestation with wrist pain after fall
  - T 37.5°C, HR 98, BP 152/92
  - No headache or vision changes
  - Wrist deformity, brisk pulses

Next steps?

125/83

A. Consult ortho
B. Treat pain, recheck BP
C. Attribute to pain from injury
D. Start antihypertensives
E. Send preeclampsia labs
F. Call OB immediately

126/96 162/101 142/88

158/100…. Next steps?

A. Outpatient follow-up
B. Send labs
C. OB consult only
D. Reduce fracture and discharge

Results

- UA: neg protein
- Platelets 92K
- AST/ALT elevated
- Creatinine ↑

Case 3 – Myth Busting

- Myth: pain explains severe hypertension
- Reality: ≥140/90 in pregnancy is abnormal
  - Pain does not explain severe hypertension
- Preeclampsia can exist without proteinuria (10%)
  - Labs may lag behind clinical deterioration
  - ED recognition often precedes OB escalation

Definitions

- **Preeclampsia**
  - new onset hypertension (SBP ≥140 and/ or DBP ≥90) and proteinuria **or**
  - the new onset of hypertension plus significant end-organ dysfunction with or without proteinuria in a previously normotensive patient
  - typically >20 weeks of gestation or postpartum

Definitions

- **Preeclampsia with severe features**
  - severe hypertension (SBP ≥160 and/ or DBP ≥110) and/or specific signs or symptoms of significant end-organ dysfunction

- **HELLP syndrome** (**H**emolysis, **E**levated **L**iver enzymes, **L**ow **P**latelets)
  - Hypertension (82-88%) and/or proteinuria (86-100%)

Feature	Preeclampsia	Preeclampsia with severe features
Blood pressure	≥ 140/90 mmHg	≥ 160/110 mmHg (at least 2 measurements)
Proteinuria	Present (usually)	May or may not be severe
Symptoms	Mild or none	Severe headache, vision changes, RUQ abd pain
Organ dysfunction	Minimal or absent	Thrombocytopenia, liver dysfunction, renal insufficiency, pulmonary edema
Risk/ management	Monitored, delivery often at 37+ weeks	High risk; immediate hospitalization and delivery often indicated

Definitions

- **Eclampsia**
  - tonic-clonic seizure in a patient with preeclampsia

- **Gestational hypertension**
  - HTN w/o proteinuria or other signs/symptoms of preeclampsia-related end-organ dysfunction
  - >20 wks gestation; previously normal blood pressure.
  - should resolve by 12 weeks postpartum.

Teaching Pearl

Proteinuria not required ~10-15% lack proteinuria.

Diagnosis = HTN + ANY severe feature:

- Platelets <100K
- Elevated LFTs
- Renal injury
- Pulmonary edema
- Neuro symptoms

Litigation Pitfalls

Common allegations:

- Severe BP attributed to pain
- No lab evaluation
- No fetal monitoring
- Delayed OB involvement

Framing argument:

- “Warning signs were present but dismissed due to distracting injury.”

Charting Pearls

- “Persistent severe-range BP despite analgesia prompted evaluation for preeclampsia with severe features.”
- “Hypertension not attributed solely to pain; obstetric pathology assessed.”

High-Risk Myths to Abandon

1. Low hCG rules out ectopic
2. No proteinuria rules out preeclampsia
3. Pain explains severe hypertension
4. Imaging at diagnostic doses harms the fetus

Take-Home Pearls

- Treat abnormal vitals seriously
- Targeted testing beats reflexive testing
  - Avoid test-avoidance bias
- Maternal stability = fetal stability

Litigation Pearls in Pregnant Patients

- Failure to obtain pregnancy testing in reproductive-age
- Delayed diagnosis of ectopic pregnancy or preeclampsia
- Attributing abnormal vitals to pregnancy or pain
- Avoidance of imaging or treatment due to fetal concerns
- Failure to document shared decision-making

Words That Kill (in Court)
Assumptions, not decisions, sink defense

- “BP elevated likely due to pain/anxiety”
- “Appears well / comfortable” despite abnormal vitals
- “OB aware” without time, name, or recommendation
- “Patient declined imaging” without documented risk discussion
- “Pregnancy-related symptoms” used as explanation, not diagnosis

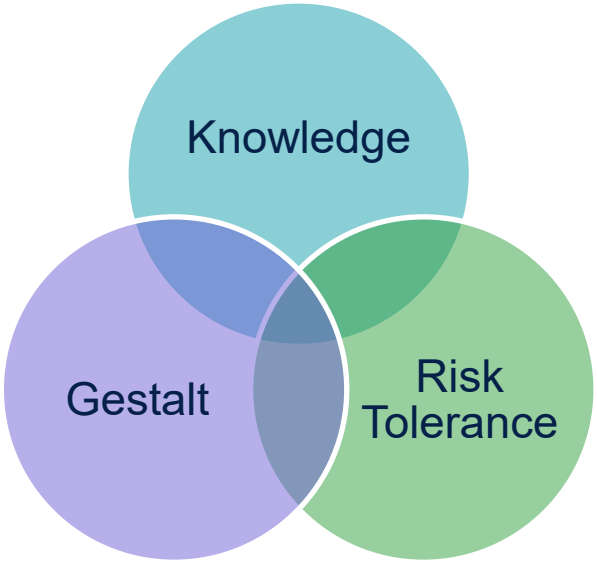
Defensive Documentation: Pregnant Patient

- Gestational age and pregnancy status explicitly documented
- Abnormal vitals acknowledged and reassessed
- Repeat exam prior to DC
- Explicit differential includes pregnancy-related AND non-pregnancy diagnoses
- Clear OB consultation: who, when, and recommendations
- Shared decision-making documented (risks, benefits, alternatives)
- Clear return precautions tied to pregnancy-specific red flags

Defensive documentation = "defensible"

"Given pregnancy at ___ weeks, abnormal vital signs were not attributed to pregnancy alone; patient was reassessed, pregnancy-related and non-pregnancy diagnoses were considered, and management decisions were made after discussion with ___."

Each of these cases wasn't missed because of ignorance — they were almost missed because they **seemed reasonable**.



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