Registrar Education Series

Prenatal Care

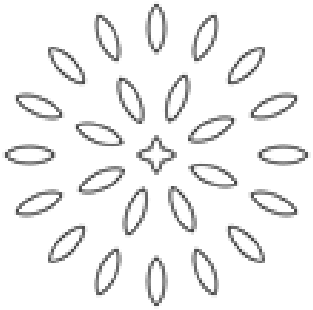
Continuing education for personal growth and quality improvement

WHO
USPSTF
ACOG
DynaMed

How to...

- What is the differential based on the chief complaint?
- What additional information do you want?
- How does the history narrow down the differential?
- What labs/imaging would be most helpful?
- What is the diagnosis?
- What is the assessment?
- What is the treatment/plan?



PRENATAL CASES

challenging the status quo

Quick reference

Quick Reference

- Initial visit/1st trimester summary
- 2nd trimester summary
- 3rd trimester summary
- 4th trimester summary
- Methods of dating
- Intimate Partner Violence (IPV)
- Healthy weight gain
- Nausea and vomiting
- Rho(D) Immune Globulin Prophylaxis
- Screening urine culture
- Genetic screening
- Cervical cancer screening
- Chronic hypertension
- Gestational diabetes screening
- Urine dipstick
- Group B strep screening
- Antenatal surveillance
- Pre-eclampsia
- Postpartum contraception
- Antidepressant use in pregnancy/lactation
- Immunizations
- TB screening

Seed Global Health

Initial Prenatal Visit and 1st Trimester Care

Chief Concern | Histories | PE | Assessment | Plan

Seed Global Health

Chief Concern

Shelly is a 30yoF who presents to OPD for a missed period.

Seed Global Health

Histories

HPI: She and her husband have been trying to get pregnant for the past 4 months. She is excited after having a positive home pregnancy test a few weeks ago. She has been feeling tired and nauseous, but denies any abdominal pain, vomiting, or spotting. The first day of her last menstrual period was October 26, 2022. She is not taking any current medications. She has never had cervical cancer screening.

Pregnancy history:

G1: May 9, 2017. Full-term NSVD, healthy son (Nicholas). Uncomplicated pregnancy and delivery. Breastfed for 26 months.

G2: Current pregnancy.

PMH: None. No history of HTN, DM, asthma, thyroid disorder, seizure disorder, depression/anxiety. No history of gestational HTN, PreE, or GDM in previous pregnancies.

PSH: None

FH: No family history of genetic abnormalities.

Social: Originally from the Copperbelt, moved to Lusaka 5 years ago after the birth of their first child. Lives with her husband and 5-year-old son. Works as a primary school teacher, enjoys spending time with her family. She denies any history of DV/IPV and feels safe with her partner. She denies tobacco, alcohol, or drug use.

Seed Global Health

Physical Exam

VITALS: T 36.8, BP 122/78, P 73, R 14, Wt 55kg BMI 20
GEN: Average weight female appearing stated age. No acute distress. Excited about pregnancy.
NECK: Supple, full ROM, no thyromegaly
CV: Normal S1, S2. RRR, no murmurs/rubs/gallops. No LE edema.
PULM: Lungs bilaterally clear to auscultation. No wheezes/crackles/rhonchi.
ABDOMEN: Soft, non-tender, nondistended. (+)BS. No organomegaly. Fundus non-palpable, below the pubic symphysis.
GU: Normal external genitalia. No abnormal vaginal discharge. Cervix unremarkable in appearance.
PSYCH: Good eye contact, appropriate mood and affect.

Labs

Imaging

Seed Global Health

1st Trimester Labs:

FBC	
WBC	Pending
Hgb	Pending
Hct	Pending
Plt	Pending

Infectious	
HIV	Negative
TB	Negative
Rubella	Pending
HBsAg	Pending
HepC	Pending
RPR	Pending
GC/CT*	Pending

Urine*	
LE	Negative
Blood	Negative
Nit	Negative
Bili	Negative
Glucose	Negative
UPT	Positive

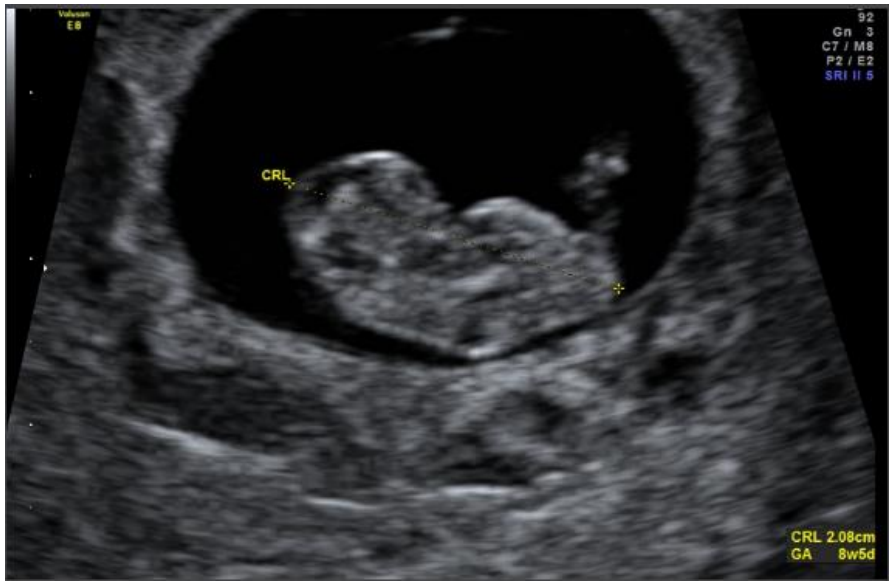
Other	
Blood type	Pending
Ab status	Pending
VIA	Negative

Imaging

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Imaging



*TVUS shows a viable IUP, measuring at 8 5/7 weeks gestation

Labs

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Assessment

- Shelly is a 30yo G2P1001 at 9 2/7 weeks gestation by LMP (EDD 8/8/23) seen today for her initial prenatal visit. Current pregnancy is uncomplicated, and she has no history of complications in her previous pregnancy.

Seed Global Health

Plan

- PNL ordered today, results pending: Blood type / Ab status / Hb / Rubella immunity / RPR screening / HBsAg / HIV- / HepC
- TB screening negative, obtained due to risk factor with known household contact with active TB.
- Will obtain urine culture for screening for asymptomatic bacteriuria next visit, during the preferred timing of 11-16 weeks gestation.
- Cervical cancer screening: First ever screening completed at 9 weeks, negative. Next due 2025 (3 years).
- Genetic screening: Options discussed, opts out of screening at this time.
- Immunizations: Influenza and COVID19 vaccines UTD. Plan for Tdap between 27 – 36 weeks gestation. If rubella non-immune, will need postpartum MMR.
- Start daily prenatal vitamin with 400mcg folic acid
- Trial of Vitamin B6 for nausea/vomiting, can add doxylamine 12.5mg if not improving. Also discussed ginger, small/frequent meals, and increased protein intake.
- Counseling provided: Nutrition (including foods to avoid during pregnancy), weight gain, exercise/physical activity, teratogens.
- Follow-up in 4 weeks

Seed Global Health

Definition by dates: 0 – 13 6/7 weeks

- Methods of dating: LMP, ultrasound, or combination of both

Key history: DM, HTN, thyroid, seizures, asthma

- Substance use, violence, IPV, reproductive/sexual coercion, nutritional status, exercise/physical activity
- Depression/anxiety screening at least once in pregnancy
- Previous pregnancies: h/o preterm, PreE, GDM, midtrimester loss or cervical insufficiency. Mode of delivery, pregnancy/delivery complications.

Key exam

- Baseline BMI, track at all visits. Healthy weight gain is based on pre-pregnancy BMI.
- Blood pressure: Every visit
- Auscultation of FHTs: Every visit starting at 10-12 weeks

Key counseling: Nutrition, weight gain, exercise, nausea and vomiting, vitamin/mineral toxicity, teratogens

Investigations/interventions:

- PNL: Blood type / Rh / Varicella / Rubella / Anemia / HIV / HBsAg / RPR / HepC
- GC/CT based on risk and age
- Urine culture: screen for asymptomatic bacteriuria b/w 11-16 weeks (or first visit if later)
- Hb electrophoresis if African, SE Asian, or Mediterranean descent
- TB screening if at risk
- TSH only if at risk
- Early DM screening if pregestational DM suspected
- Cervical cancer screening if due
- Genetic screening: Offer to all women

Frequency of follow-up: Every 4 weeks

WHO Antenatal Care Guidelines

1st Trimester Summary

Quick reference

Seed Global Health

2nd Trimester Care

Chief Concern | Histories | PE | Assessment | Plan

Seed Global Health

Chief Concern

Shelly is a 30yo G2P1001 at 24 2/7 weeks gestation by LMP (EDD 8/8/23) here today for routine OB follow-up. Current pregnancy is uncomplicated, and she has no history of complications in her previous pregnancy.

Seed Global Health

Histories

HPI: She completed her anatomy scan 4 weeks ago. No abnormalities seen. The previous nausea has resolved, but she is having some heartburn and constipation now. Otherwise feeling well.
(+)FM/(-)LOF/(-)VB/(-)Ctx
No headaches, vision changes, abdominal pain, LE edema, dysuria
Planning to breastfeed. Breastfed her 1st child for 26 months, no barriers.
PPBC: Undecided. Likely planning on mini pill initially, considering IUD or implant at some point.

Current medications: PNV only. No supplements.

Social: Originally from the Copperbelt, moved to Lusaka 5 years ago after the birth of their first child. Lives with her husband and 5-year-old son. Works as a primary school teacher, planning to continue working until shortly before delivery. Enjoys spending time with her family. She denies any history of DV/IPV and feels safe with her partner. She denies tobacco, alcohol, or drug use.

Seed Global Health

Physical Exam

VITALS: T 36.8, BP 118/74, P 86, R 12, Wt 57kg BMI 21

GEN: Average weight female appearing stated age. No acute distress.

CV: Normal S1, S2. RRR, i/vi SEM, no rubs/gallops. No LE edema.

PULM: Lungs bilaterally clear to auscultation. No wheezes, crepitations or rhonchi.

ABDOMEN: Soft, non-tender.
FH: 24cm
FHTs: 142 bpm

EXT: No LE edema

PSYCH: Good eye contact, appropriate mood and affect.

Labs

Imaging

Seed Global Health

1st Trimester Labs:

FBC	
WBC	7.5
Hgb	12.5
Hct	37.5
Plt	220

Other	
Blood type	O+
Ab status	Negative
VIA	Negative

Infectious	
HIV	Negative
TB	Negative
Rubella	Non-immune
HBsAg	Negative
HepC	Negative
RPR	Non-reactive
GC/CT*	Negative

Urine*	
LE	Negative
Blood	Negative
Nit	Negative
Bili	Negative
Glucose	Negative
UPT	Positive

2nd/3rd Trimester Labs:

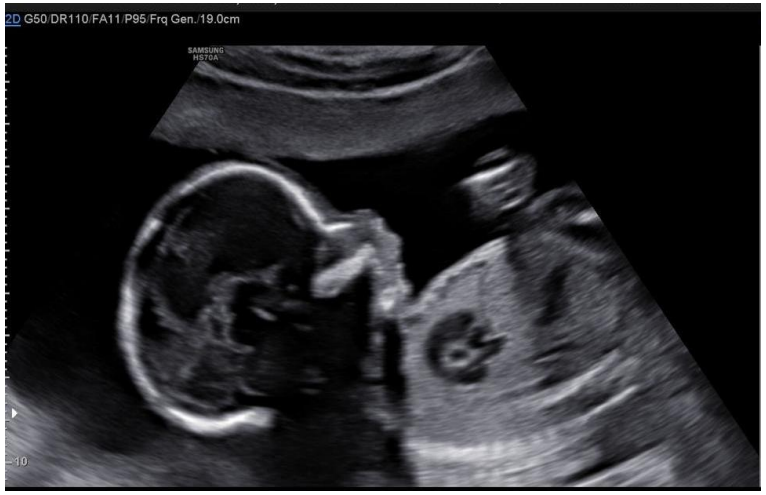
Other	
2hr 75g OGTT	4.9/9.7/8.1

Imaging

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Imaging



No abnormalities seen on anatomy ultrasound

Labs

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Assessment

- Shelly is a 30yo G2P1001 at 24 2/7 weeks gestation by LMP consistent with 20-week ultrasound (EDD 8/8/23) seen today for routine OB follow-up. Current pregnancy is uncomplicated, and she has no history of complications in her previous pregnancy.

Seed Global Health

Plan

- PNL: O+/Ab-/Hb 12.5/Rubella non-immune/RPR NR/HBsAg-/HIV-/HepC-
- Glucose tolerance test for GDM screening today. Plan for FBC and RPR next visit.
- TB screening negative, obtained due to risk factor with known household contact with active TB.
- Urine culture for screening for asymptomatic bacteriuria negative at 13 weeks.
- Cervical cancer screening: First ever screening completed at 9 weeks, negative. Next due 2025 (3 years).
- Genetic screening: Discussed and opts out.
- Anatomy scan: Done at 20 weeks, no abnormalities seen
- Immunizations: Influenza and COVID19 vaccines UTD. Plan for Tdap between 27 – 36 weeks gestation. Will need postpartum MMR.
- Continue daily prenatal vitamin with 400mcg folic acid
- Reflux: Discussed smaller meals, trial of OTC antacids if needed. Will add H2 blocker if not improving. Increase hydration and fiber for constipation, add stool softener if needed.
- Counseling provided: Signs of preterm labor, work plan (up until delivery), planning to breastfeed.
- PPBC: Undecided. Likely minipill, considering IUD or implant at some point.
- Follow-up in 4 weeks

Seed Global Health

Definition by dates: 14 0/7 – 27 6/7 weeks gestation

Key history: Fetal movement / vaginal bleeding / loss of fluid / contractions

- IPV Screening: Once per trimester

Key exam

- BMI: every visit, review weight gain
- Blood pressure: Every visit
- Auscultation of FHTs: Every visit, beginning at 10-12 weeks
- Fundal height measurement: beginning by 20 weeks
  - From 16-36 weeks, cm = age in weeks. Normal if +/- 2cm of GA
- LE edema: Low sensitivity and specificity for PreEclampsia

Key counseling

- Working
- Preterm labor
- Anticipating labor, childbirth education classes
- Breastfeeding
- Contraception

Investigations/Interventions

- Offer genetic screening if not done in the first trimester
- U/S: Ideally 18-22 weeks (fetal anatomy, amniotic fluid volume, cardiac activity, placental position, fetal biometry, fetal number and sex)
- Repeat anemia screening: 24 0/7 – 28 6/7 weeks. 2nd trimester Hct cutoff < 32%.
- Repeat syphilis at 28-32 weeks if high risk
- GDM screening: 24-28 weeks
- Tdap: Once between 27-36 weeks during each pregnancy
- Not indicated: Screening urine dipstick

Frequency of follow-up: Every 4 weeks

WHO Antenatal Care Guidelines

2nd Trimester Summary

Quick reference

Seed Global Health

3rd Trimester Care

Chief Concern | Histories | PE | Assessment | Plan

Seed Global Health

Chief concern

Shelly is a 30yo G2P1001 at 36 2/7 weeks gestation by LMP consistent with 20-week ultrasound (EDD 8/8/23) here today for routine OB follow-up. Current pregnancy is uncomplicated, and she has no history of complications in her previous pregnancy.

Seed Global Health

Histories

HPI: Feeling excited to meet the baby, somewhat nervous about delivery. They have a car seat and bassinet ready. Constipation has worsened despite increasing hydration and fiber intake, but otherwise feeling well.
(+)FM/(-)LOF/(-)VB/(-)Ctx
No headaches, vision changes, abdominal pain, LE edema, dysuria
Labor plan: Would like to try to labor without epidural.
Planning to breastfeed. Breastfed her 1st child for 26 months, no barriers.
PPBC: Planning on mini pill initially, considering IUD or implant at some point.

Current medications: PNV only. No supplements.

Social: Originally from the Copperbelt, moved to Lusaka 5 years ago after the birth of their first child. Lives with her husband and 5-year-old son. Works as a primary school teacher, now on break so not planning to return until next academic year. Enjoys spending time with her family. She denies any history of DV/IPV and feels safe with her partner. She denies tobacco, alcohol, or drug use.

Seed Global Health

Physical Exam

VITALS: T 36.8, BP 118/74, P 86, R 12, Wt 62kg, BMI 23

GEN: No acute distress.

CV: Normal S1, S2. RRR, i/vi SEM no rubs/gallops. No LE edema.

PULM: Lungs bilaterally clear to auscultation. No wheezes/rales/rhonchi.

ABDOMEN: Soft, non-tender.
FH: 36cm
FHTs: 138 bpm

PSYCH: Good eye contact, appropriate mood and affect.

Labs

Imaging

Seed Global Health

1st Trimester Labs:

FBC	
WBC	7.5
Hgb	12.5
Hct	37.5
Plt	220

Other	
Blood type	O+
Ab status	Negative
VIA	Negative

Infectious	
HIV	Negative
TB	Negative
Rubella	Non-immune
HBsAg	Negative
HepC	Negative
RPR	Non-reactive
GC/CT*	Negative

Urine*	
LE	Negative
Blood	Negative
Nit	Negative
Bili	Negative
Glucose	Negative
UPT	Positive

2nd/3rd Trimester Labs:

Other	
2hr 75g OGTT	4.9/9.7/8.1

Infectious	
RPR	Non-reactive
GBS	Pending

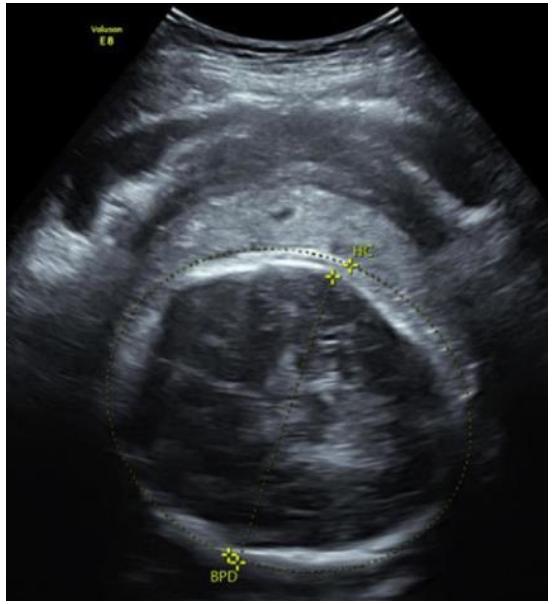
FBC	
WBC	8.6
Hgb	10.7
Hct	32.1
Plt	195

Imaging

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Imaging



*Vertex presentation on ultrasound

Labs

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Assessment

- Shelly is a 30yo G2P1001 at 36 2/7 weeks gestation by LMP consistent with 20-week ultrasound (EDD 8/8/23) seen today for routine OB follow-up. Current pregnancy is uncomplicated, and she has no history of complications in her previous pregnancy.

Seed Global Health

Plan

- PNL: O+/Ab-/Hb 12.5/Rubella non-immune/RPR NR/HBsAg-/HIV-/HepC-
- 24-28 week labs: GDM screening negative. Hb 10.7. RPR nonreactive.
- GBS swab collected at 36 weeks, results pending. Will treat with intrapartum PCN if positive.
- TB screening negative, obtained due to risk factor with known household contact with active TB.
- Urine culture for screening for asymptomatic bacteriuria negative at 13 weeks.
- Cervical cancer screening: First ever screening completed at 9 weeks, negative. Next due 2025 (3 years).
- Genetic screening: Discussed and opts out.
- Anatomy scan: done at 20 weeks, no abnormalities seen
- Immunizations: Influenza and COVID19 vaccines UTD. Tdap given at 32 weeks. Will need postpartum MMR.
- Continue daily prenatal vitamin with 400mcg folic acid
- Constipation: Add stool softener since not improving despite increased hydration and fiber.
- Counseling provided: Signs of preterm labor, recognizing active labor, pain management options during labor, discharge planning, planning to breastfeed.
- PPBC: Undecided. Likely minipill, considering IUD or implant at some point.
- Follow-up in 1 week, consider induction <41, recommend if > 42 weeks.

Seed Global Health

Definition by dates: 28 0/7 weeks – delivery

- Early term: 37 0/7 – 38 6/7 weeks
- Full term: 39 0/7 – 40 6/7 weeks
- Late term: 41 0/7 – 41 6/7 weeks
- Postterm: 42 0/7 weeks and beyond

Key history: Fetal movement / vaginal bleeding / loss of fluid / contractions

- IPV Screening: Once per trimester

Key exam

- BMI: every visit, review weight gain
- Blood pressure: Every visit
- Auscultation of FHTs: Every visit
- Fundal height measurement: beginning by 20 weeks
  - From 16-36 weeks, cm = age in weeks. Normal if +/- 2cm of GA
- LE edema: Low sensitivity and specificity for PreEclampsia

Key counseling

- Breastfeeding
- Signs of preterm labor, recognizing active labor
- Breech presentation at term, TOLAC, prolonged pregnancy and options for management
- Preparation for discharge, neonatal interventions
- Contraception

Investigations/interventions

- Tdap: Once between 27-36 weeks during each pregnancy
- GBS screening: Ideal timing 36 0/7 – 37 6/7 weeks
- Membrane sweeping: Can offer from 38 – 41 weeks
- Beginning at 41 weeks: antenatal surveillance with twice weekly NST, weekly amniotic fluid volume assessment
- Not indicated: Screening urine dipstick

Frequency of follow-up

- 28 – 36 weeks: Every 2 weeks
- 36 weeks – delivery: Weekly

WHO Antenatal Care Guidelines

3rd Trimester Summary

Quick reference

Seed Global Health

4th Trimester Care

Chief Concern | Histories | PE | Assessment | Plan

Seed Global Health

Chief Concern

Shelly is a 31yo G2P2002 now 4 weeks postpartum s/p NSVD at 39 6/7 weeks, here today for postpartum follow-up.

Seed Global Health

Histories

HPI: Baby girl, Alice, born on August 7, 2023, doing well. Delivery and hospital course were uncomplicated.
Feeding: Exclusively breastfeeding. Some initial difficulty with latch, now doing well. Minimal lochia. No foul smelling discharge. No fever, dysuria, abdominal pain, chest pain, SOB, LE edema. Constipation is improving but having some pain from hemorrhoids.
PPBC: Started the mini pill last week. Still considering a future IUD or implant. Initially struggling some with “baby blues,” but feels it is now improving, and she is developing more of a routine with good support from her husband and family.
Edinburgh Postpartum Depression Screening: Negative

Social: Originally from the Copperbelt, moved to Lusaka 6 years ago after the birth of their first child. Lives with her husband, 6-year-old son (Nicholas) and newborn daughter (Alice, born August 2023). Good support at home. Works as a primary school teacher, will be returning to work when Alice is 3 months old. Enjoys spending time with her family. She denies any history of DV/IPV and feels safe with her partner. She denies tobacco, alcohol, or drug use.

Seed Global Health

Physical Exam

VITALS: T 37.1, BP 120/72, P 78, R 12, Wt 59kg, BMI 22

GEN: No acute distress. Nursing newborn during visit, no issues with latch.

CV: Normal S1, S2. RRR, no murmurs/rubs/gallops. No LE edema.

PULM: Lungs bilaterally clear to auscultation. No wheezes, crepitations or rhonchi.

ABDOMEN: Soft, non-tender, non-distended. No suprapubic tenderness. Fundus not palpable

PSYCH: Good eye contact, appropriate mood and affect.

Labs

Imaging

Seed Global Health

1st Trimester Labs:

FBC	
WBC	7.5
Hgb	12.5
Hct	37.5
Plt	220

Other	
Blood type	O+
Ab status	Negative
VIA	Negative

Infectious	
HIV	Negative
TB	Negative
Rubella	Non-immune
HBsAg	Negative
HepC	Negative
RPR	Non-reactive
GC/CT*	Negative

Urine*	
LE	Negative
Blood	Negative
Nit	Negative
Bili	Negative
Glucose	Negative
UPT	Positive

2nd/3rd Trimester Labs:

Other	
2hr 75g OGTT	4.9/9.7/8.1

Infectious	
RPR	Non-reactive
GBS	Negative

FBC	
WBC	8.6
Hgb	10.7
Hct	32.1
Plt	195

Postpartum Labs:

None indicated

Imaging

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Imaging

None indicated

Labs

Seed Global Health

Assessment

- Shelly is a 31yo G2P2002 now 4 weeks postpartum s/p NSVD at 39 6/7 weeks, seen today for postpartum follow-up. No pregnancy or delivery complications.

Seed Global Health

Plan

- PNL: O+/Ab-/Hb 12.5/Rubella non-immune/RPR NR/HBsAg-/HIV-/HepC-
- 24-28 week labs: GDM screening negative. Hb 10.7. RPR nonreactive.
- TB screening negative, obtained due to risk factor with known household contact with active TB.
- Cervical cancer screening: First ever screening completed at 9 weeks, negative. Next due 2025 (3 years).
- Immunizations: Influenza and COVID19 vaccines UTD. Tdap given at 32 weeks. MMR given immediately postpartum since she was rubella non-immune.
- Feeding: Exclusively breastfeeding, initial latch issues have resolved. Start Vitamin D supplementation, either 400IU/day directly to baby, or maternal dose of 6400IU daily.
- Postpartum depression screening: Negative Edinburgh Postpartum Depression Scale
- Counseling provided: Urinary incontinence, hemorrhoids, constipation (water, fiber, miralax, lactulose; stool softener if hemorrhoids), breastfeeding, postpartum depression, sexuality.
- PPBC: Continue minipill for now, considering IUD or implant in the future.
- Follow-up if needed in 4 weeks, in conjunction with baby's 2 month well child check.

Seed Global Health

Definition by dates: Delivery – 12 weeks postpartum

Key history

- Delivery/postpartum course, complications
- Fever, increased or foul-smelling lochia (can last up to 8 weeks), dysuria, urinary incontinence, abdominal pain, uterine tenderness, chest pain, SOB, LE edema, constipation, hemorrhoids, sexuality
- Breastfeeding
- Postpartum depression screening: PHQ2, PHQ9, or Edinburgh Postpartum Depression Scale
- IPV screening

Key exam

- Blood pressure: All patients. If HTN disorders of pregnancy – check within 7 days of delivery.
- Not indicated: Routine pelvic exam, unless there are patient or provider concerns.

Key counseling

- Contraception
- Urinary incontinence, hemorrhoids, constipation (water, fiber, miralax, lactulose; stool softener if hemorrhoids), breastfeeding, postpartum depression, sexuality

Investigations/interventions

- If GDM: 75g 2 hour fasting OGTT between 4-12 weeks PP, then screen for DM every 1-3 years (8-20 fold increased risk of developing DM2 in her lifetime)

Frequency of follow-up

- Initiate care within 3 weeks after delivery by phone or outpatient follow-up
- Full assessment recommended within 12 weeks
- May require multiple visits to full address needs and concerns

WHO Antenatal Care Guidelines

4th Trimester Summary

Quick reference

Gestational age range		Discrepancy between u/s and LMP dating that supports redating*
≤ 13 6/7 weeks	≤ 8 6/7 weeks	> 5 days
	9 0 /7 – 13 6/7 weeks	> 7 days
14 0/7 – 15 6/7 weeks		> 7 days
16 0/7 - 21 6/7 weeks		> 10 days
22 0 /7 – 27 6/7 weeks		> 14 days
28 0/7 weeks and beyond		> 21 days

**If less than this discrepancy, then LMP dating is used (dated "by LMP c/w __ wk u/s")*

Methods of Dating

Trimester Summaries
1 2 3 4

First day of LMP (plus 280 days)

ACOG

- Most accurate by first trimester u/s: CRL b/w 10 – 13 6/7 weeks
- 1st trimester u/s preferred. Considered suboptimal dating if no u/s before 22 weeks.

WHO:

- 1 u/s before 24 weeks is recommended, prioritize completing it after 18 weeks for anatomy

Intimate Partner Violence (IPV)

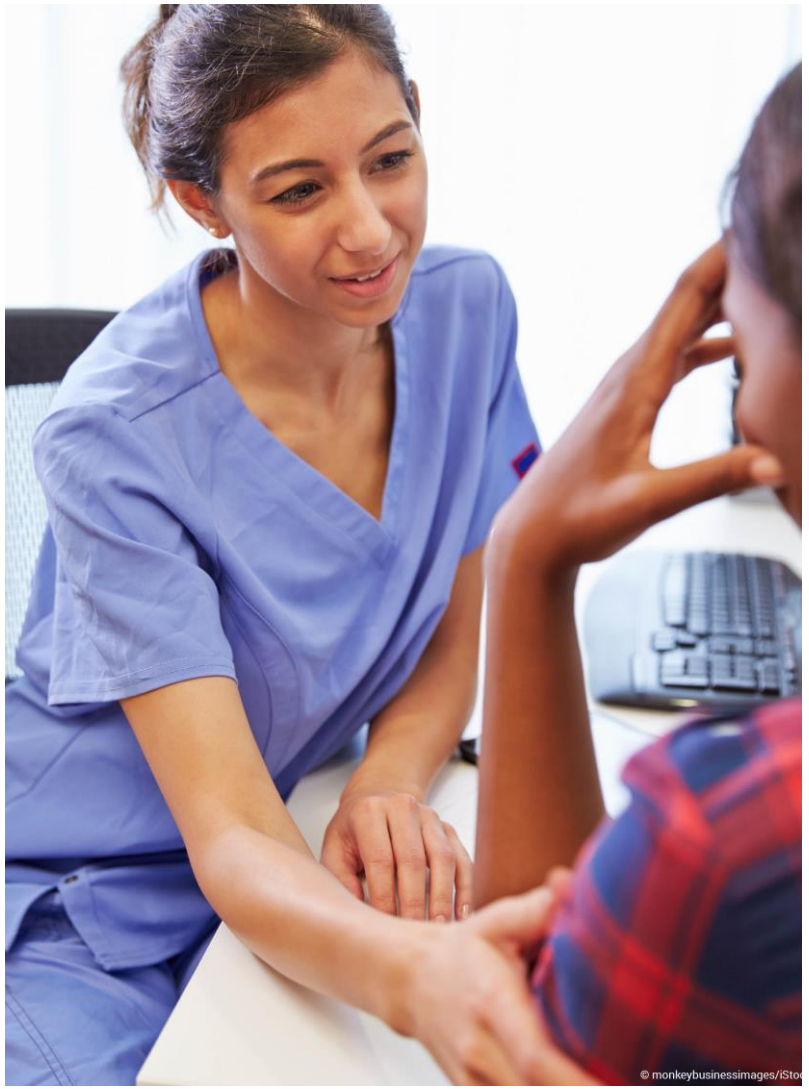
Associated with poor pregnancy outcomes: poor weight gain, infection, anemia, tobacco use, stillbirth, pelvic fracture, placental abruption, fetal injury, preterm delivery, LBW

Screen: 1st prenatal visit, at least once per trimester, and at postpartum visit

- Patient alone in a private and safe setting
- Avoid stigmatizing terms: abuse, rape, battered, violence

Sample screening questions (ACOG):

- *Has your current partner ever threatened you or made you feel afraid?*
- *Has your partner ever hit, choked, or physically hurt you?*
- *Has your partner ever forced you to do something sexually that you did not want to do, or refused your request to use condoms?*
- *Does your partner support your decision about when or if you want to become pregnant?*
- *Has your partner ever tampered with your birth control or tried to get you pregnant when you didn't want to be?*



Trimester Summaries
1 2 3 4

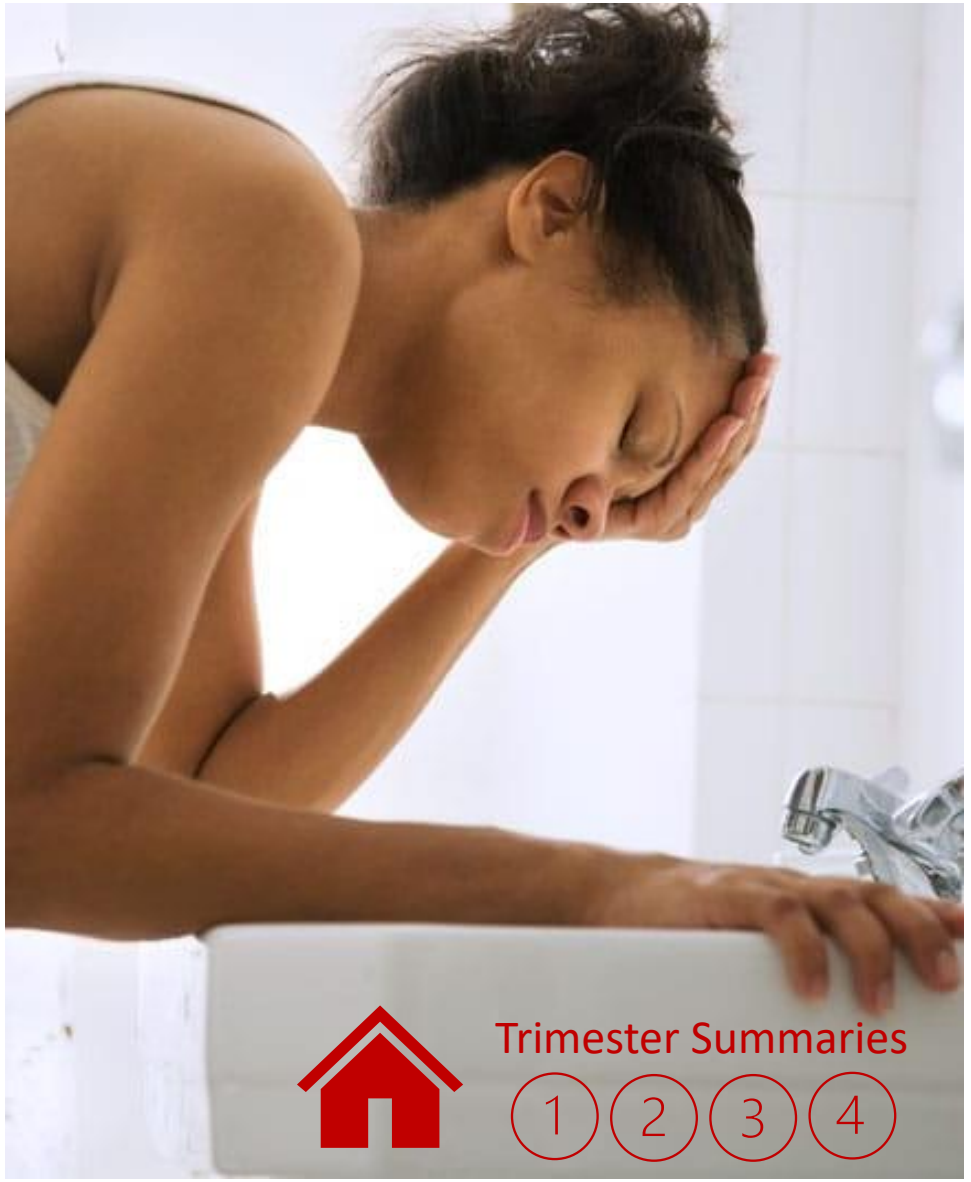
Healthy Weight Gain

- Weight gain recommendations based on pre-pregnancy BMI
  - Underweight (BMI < 18.5): 28 – 40 lbs / 12.7 – 18.1kg
  - Normal weight (BMI 18.5 – 24.9): 25 – 35 lbs / 11.3 – 15.8kg
  - Overweight (BMI 25 – 29.9): 15 – 25 lbs / 6.8 – 11.3kg
  - Obese (BMI ≥ 30): 11 – 20 lbs / 5 – 9kg
- Physical activity recommendations:
  - 30 minutes per day, 5 days per week, 150 minutes per week

Trimester Summaries
1 2 3 4

Nausea and Vomiting

- Affects > 70% of pregnant women
- First line therapy:
  - Vitamin B6 (pyridoxine): 10-25mg q8 hours
  - Doxylamine (Unisom sleep tabs): 12.5-25mg q8 hours
- Nonpharmacologic therapies
  - Ginger
  - Acupressure
  - Increasing protein consumption
  - Grazing: Small, frequent food to avoid an empty or full stomach



Rho(D) Immune Globulin Prophylaxis

If Rh(D)-negative, non-sensitized: Rhogam

- 28-week blood group and Ab screen then either:
  - 2 doses of 500u (100mcg) IV or IM at 28 and 34 weeks OR
  - Single dose of 1500u (300mcg) IV or IM between 28-30 weeks
- Within 72 hour after delivery of Rh(D)-positive infant

After a potentially sensitizing event: give as soon as possible (within 72 hours)

- Still give dose even if unable to give in < 72 hours as any dose within 10 days may still offer some protection
- *Sensitizing events*: invasive prenatal diagnostic tests (amnio, CVS, cordocentesis, intrauterine infusions), antepartum hemorrhage, attempts at ECV, abdominal trauma, ectopic, evacuation of molar pregnancy, delivery (vaginal, instrumental, and c/s), intraoperative cell salvage, fetal death

Trimester Summaries
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Screening urine culture

Ideal timing: 11 – 16 weeks gestation

- If 1st visit is after 16 weeks, obtain at that time

Treat for 4-7 days if positive

If culture grows GBS, she will need intrapartum penicillin prophylaxis

- Do not complete 3rd trimester GBS swab in these patients

Trimester Summaries
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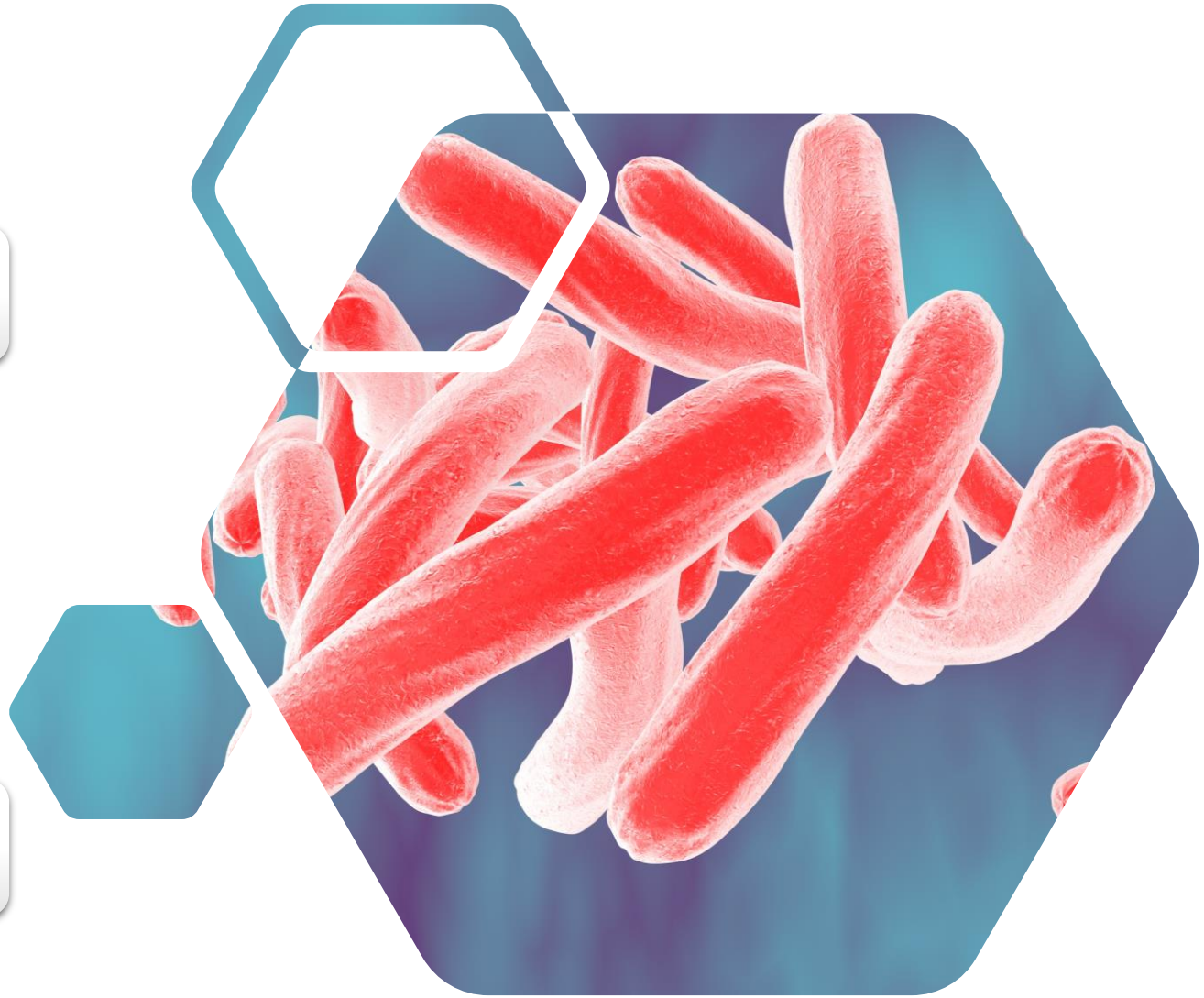
TB Screening

Risk factors

- Household contacts
- Prisoners
- Healthcare workers
- Patients with DM
- Immigrants from countries with high TB burden
- Homelessness
- Illicit drug use
- Tobacco/alcohol use
- Low body weight

TST and IGRA are both safe throughout pregnancy



Genetic Screening

First trimester options

- 10 – 13 6/7 weeks: NT u/s + PAPP-A and hCG
- cfDNA screening: 10 weeks to term

2nd trimester options

- Quadruple (“quad”) screening: 15-22 weeks
- cfDNA screening: 10 weeks to term
- Ultrasound examination

Integrated screening

- 10 – 13 6/7 weeks: NT u/s + PAPP-A and hCG
- 15 – 22 weeks: Quad screen

Trimester Summaries
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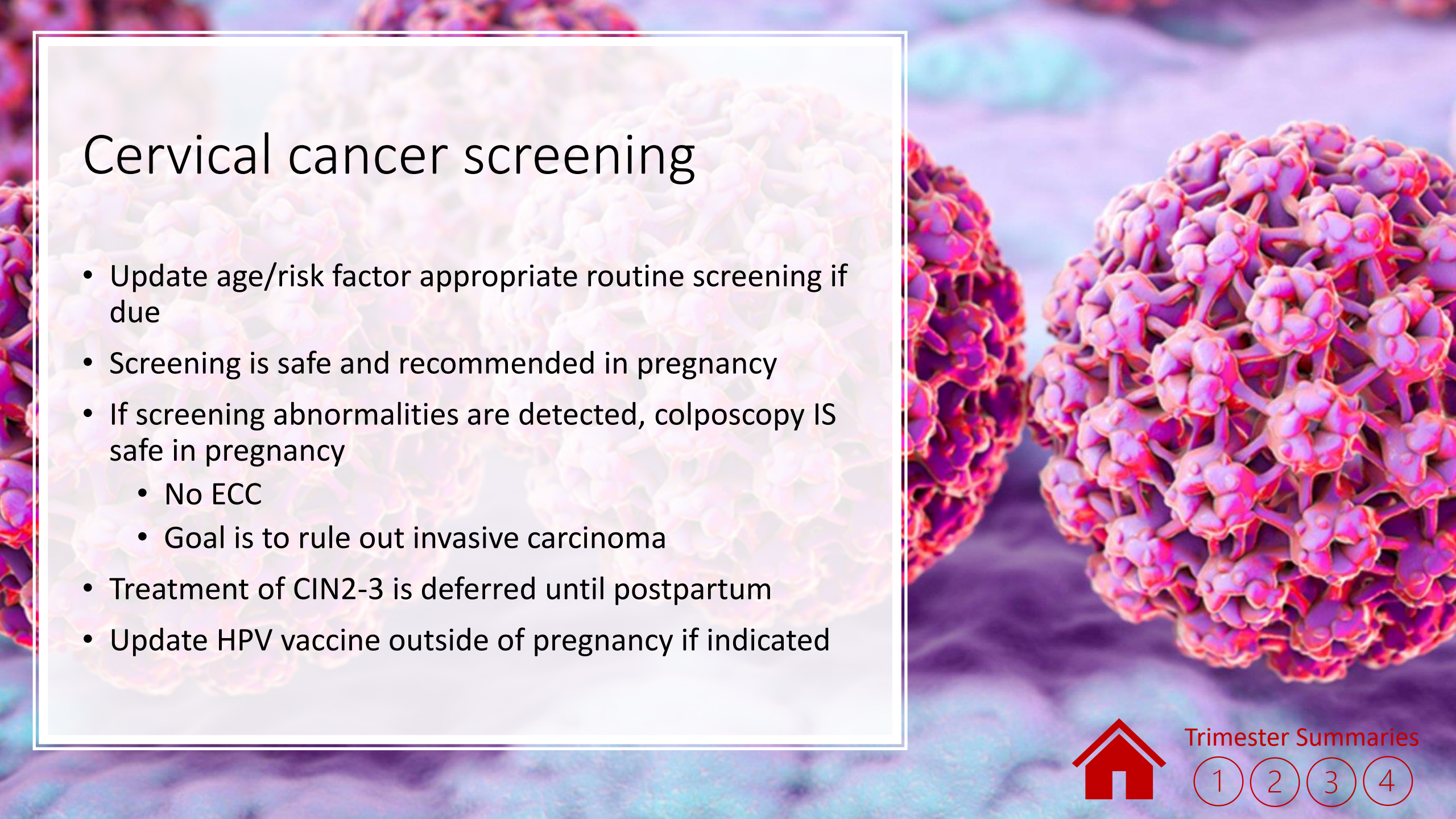
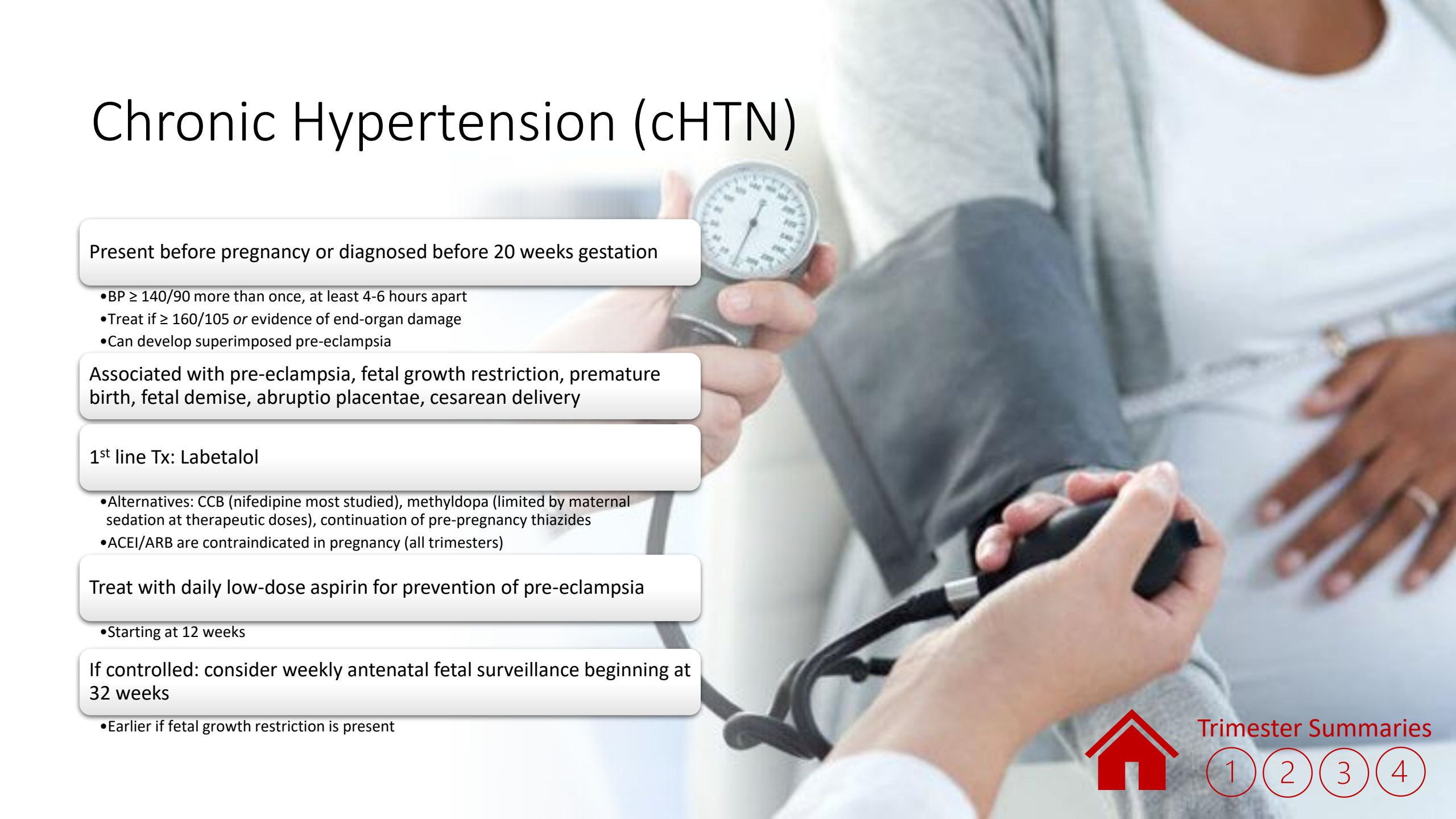
Cervical cancer screening

- Update age/risk factor appropriate routine screening if due
- Screening is safe and recommended in pregnancy
- If screening abnormalities are detected, colposcopy IS safe in pregnancy
  - No ECC
  - Goal is to rule out invasive carcinoma
- Treatment of CIN2-3 is deferred until postpartum
- Update HPV vaccine outside of pregnancy if indicated



Chronic Hypertension (cHTN)



Present before pregnancy or diagnosed before 20 weeks gestation

- BP ≥ 140/90 more than once, at least 4-6 hours apart
- Treat if ≥ 160/105 *or* evidence of end-organ damage
- Can develop superimposed pre-eclampsia

Associated with pre-eclampsia, fetal growth restriction, premature birth, fetal demise, abruptio placentae, cesarean delivery

1st line Tx: Labetalol

- Alternatives: CCB (nifedipine most studied), methyldopa (limited by maternal sedation at therapeutic doses), continuation of pre-pregnancy thiazides
- ACEI/ARB are contraindicated in pregnancy (all trimesters)

Treat with daily low-dose aspirin for prevention of pre-eclampsia

- Starting at 12 weeks

If controlled: consider weekly antenatal fetal surveillance beginning at 32 weeks

- Earlier if fetal growth restriction is present

Gestational Diabetes Screening

Average risk patients: Glucose tolerance test (GTT) at 24-28 weeks

- ***2-step approach*** (ADA, ACOG, SOGC, CDA)
  - 50g 1-hour (non-fasting)
  - If abnormal then fasting 3-hour diagnostic test (either 75g OGTT or 100g OGTT)
- ***1-step*** (WHO, FIGO, IADPSG, ADA, ADIPS)
  - 75g 2-hour OGTT

Glucose goals in pregnancy if diagnosed with GDM

- Fasting: < 5.2
- 1 hour postprandial: < 7.7
- 2 hour postprandial: < 6.6

Trimester Summaries
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Urine dipstick

- Obtain *only* if risk factors or indications such as:
  - Symptoms of UTI
  - Renal disease
  - Pre-eclampsia
  - (ACOG 2017: Little benefit without these)
- Not reliable for:
  - Pre-eclampsia screening (USPSTF)
  - Detection of GDM
- Canada choosing wisely: Recommends *against* routine urine dipstick.

Trimester Summaries
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GBS screening

Ideal timing: 36 – 37 6/7 weeks gestation, including planned cesarean section

Method: Vaginal-rectal culture

- Patient-collected and physician-collected specimens appear to have similar efficacy for detection of GBS colonization.
- Use of lubricant during pelvic exam for collection may be associated with decreased detection of GBS.

If these conditions are present, automatically treat with intrapartum prophylaxis (3rd trimester screening is not indicated)

- GBS bacteriuria during current pregnancy
- Previous infant with GBS disease

Positive culture: Intrapartum antibiotic prophylaxis (PCN G every 4 hours until delivery) unless a pre-labor c/s is performed with intact membranes

Trimester Summaries
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Antenatal surveillance

Indications

- Beginning at 41 weeks
- Earlier (typically by 32-24 weeks) if risk factors for stillbirth: prior history, HTN, DM, inherited thrombophilia, IUGR

Most common method: twice weekly NST, weekly amniotic fluid volume assessment

Labor induction if:

- AFI < 5mL or max vertical pocket < 2cm (indicating oligohydramnios)
- Nonreassuring NST, contraction stress test, BPP, or modified BPP
  - NST: Reassuring = ≥ 2 FHR accelerations within a 20min period (≥ 15 bpm above baseline x ≥ 15 seconds)

If normal results on antenatal fetal surveillance

- Consider induction between 41 0/7 – 42 0/7 weeks
- Induction recommended after 42 0/7 and by 42 6/7
  - Increased perinatal morbidity and mortality associated with postterm pregnancies

Pre-eclampsia

Prevention

- Low-dose aspirin starting before 16 weeks if increased risk (at least between 12-28 weeks), continue until delivery
  - High risk: Previous PreE, cHTN, underlying renal disease, pregestational DM, autoimmune disease (SLE, antiphospholipid antibody syndrome), multiple gestations, obesity, assisted reproduction pregnancy
  - > 1 moderate risk factor: FHx of PreE (mother, sister), maternal age > 35yo, first pregnancy, pregnancy interval > 10 years, BMI ≥ 30 at first visit
- **IF low dietary Ca intake** (< 600mg/d), supplement with 1.2-2.5g/d po if at increased risk

Diagnosis

- **Hypertension** (chronic hypertension or gestational hypertension)
- **Proteinuria** OR
  - 24hr urine protein 300mg
  - P:C ratio ≥ 0.3 mg/dL
  - Urine dipstick 2+ (only if others methods are not available)
- **Severe features**
  - New-onset thrombocytopenia (< 100K), renal insufficiency, impaired liver function (LFTs 2x ULN) + RUQ/epigastric pain, pulmonary edema, HA, vision problems

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Postpartum Contraception

Avoid pregnancy intervals of < 6 months

- Ideal spacing: 18-59 months (decreased risk of preterm birth, LBW, SGA)

No estrogen-containing contraception until 3 weeks postpartum, regardless of lactation (hypercoagulability)

If breastfeeding: progestin-only methods can be used immediately postpartum

- Some theoretical risk of interference with lactogenesis, if there are supply concerns may consider waiting until supply is well-established (typically around 4 weeks postpartum)
- Lactational amenorrhea: Must be breastfeeding exclusively on demand, amenorrheic (no bleeding after 8 weeks PP), and infant < 6 months
  - *Less reliable after solids are introduced*

Trimester Summaries
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Antidepressant use in pregnancy and lactation

All psychotropic meds studied to date cross the placenta and are present in both amniotic fluid and breast milk

Major risk of teratogenesis is during the 3rd – 8th week of gestation

Balance risk of untreated depression and increased association of conditions which appear more common in patients who received pharmacotherapy

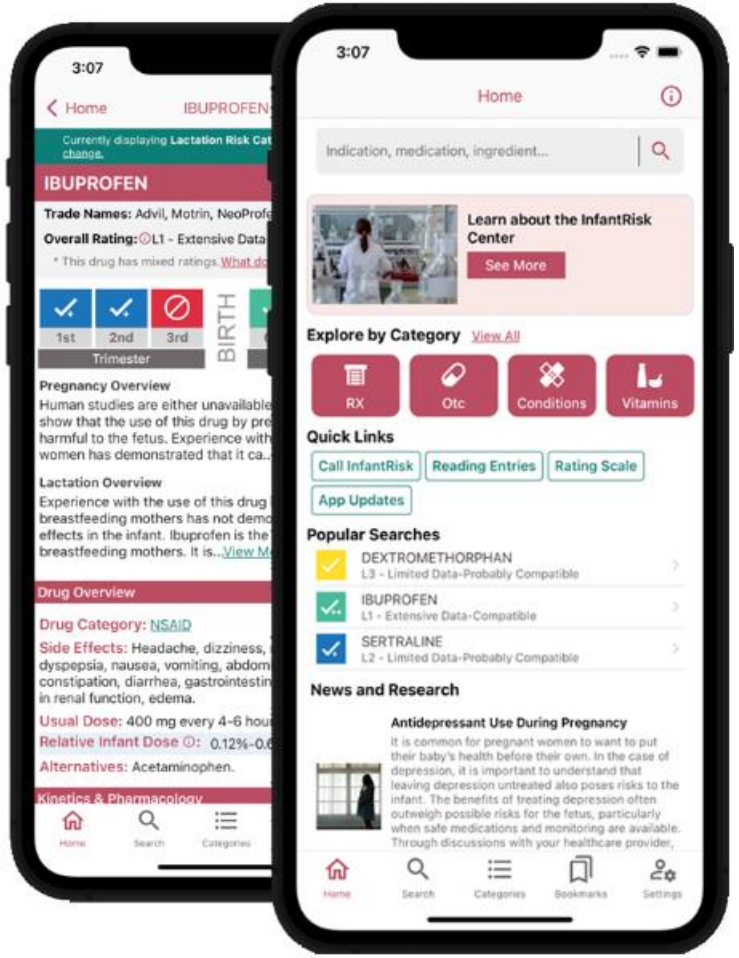
- Miscarriage, premature delivery, RDS, LBW, congenital heart defects and other birth defects, ASD

If using SSRIs or SNRs: single med at high dose preferred to multiple meds

- Avoid intrapartum paroxetine: If using it, consider fetal echo during early pregnancy
- Safer options: SSRIs less toxic than TCAs
- Lactation low-risk: Sertraline, paroxetine, nortriptyline

Useful resources: InfantRisk Center for Health Care Professionals (App)

- Patient version: MommyMeds (App)



Trimester Summaries
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Immunizations

Influenza during flu season

Ensure COVID19 vaccine is up to date

Tdap

- Each pregnancy
- Ideal timing is between 27 – 36 weeks gestation
- Optimal timing due to maximum Ab response and passive immunity to fetus, but it *can* be administered anytime during pregnancy

No live vaccines in pregnancy

- If rubella or varicella unvaccinated or non-immune, give at least 28 days before pregnancy or when postpartum

HPV outside of pregnancy based on age/indications