MARVIX AI

SAMPLE MATERNAL-FETAL MEDICINE SOAP NOTE

GROWTH RESTRICTION & CHRONIC HTN AT 31+2 WEEKS

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1 PATIENT INFORMATION

1 PATIENT DETAILS

NAME
Tamsin R. Delacroix-Hobbs

DOB
05/06/1988

AGE
38 yrs

MRN / PATIENT ID
MF-88203

DATE OF SERVICE
08/20/2026

PROVIDER
Idris B. Kamau, MD

CREDENTIALS
MD — Maternal-Fetal Medicine

PRIMARY OB PROVIDER
Hannah Reyes-Boateng, CNM

VISIT TYPE
High-Risk Pregnancy Follow-Up — growth ultrasound with Doppler review at 31+2 weeks

CARE SETTING
Outpatient MFM Clinic, regional perinatal center with level III NICU

PRIMARY CARE PROVIDER
Owen Sathe, MD

REFERRING PROVIDER
Certified nurse-midwife practice — chronic hypertension with prior early preeclampsia

INTERPRETER USED
None required

CHAPERONE PRESENT
Not required — no pelvic examination performed this visit

CC CHIEF COMPLAINT

2 PRIMARY MATERNAL-FETAL MEDICINE CONCERN

"I'm here for the growth scan. The baby feels like she's moving less than last week, and my home blood pressures have been running higher — a few in the 150s. Last time I had preeclampsia at 32 weeks and my son came early, so I am watching everything."

S SUBJECTIVE

3 PREGNANCY SYMPTOMS, OBSTETRIC HISTORY & HIGH-RISK FACTORS

3a REASON FOR EVALUATION & CURRENT PREGNANCY

Reason for Maternal-Fetal Medicine Evaluation

Interval high-risk follow-up (fourth MFM visit) for chronic hypertension with superimposed preeclampsia risk, prior early-onset preeclampsia with severe features at 32 weeks, and **fetal growth restriction** identified at 28 weeks. Purpose today: growth ultrasound with umbilical and middle cerebral artery Dopplers, review of home blood pressure and interval labs, reassessment of reported decreased fetal movement, and refinement of antenatal surveillance and delivery timing.

Current Pregnancy Information

Gestational age 31 weeks 2 days by an 8-week 3-day crown-rump length measurement (concordant with a certain last menstrual period, dating unchanged all pregnancy). Estimated due date 10/28/2026. **Singleton** intrauterine pregnancy, female fetus by NIPT and confirmed on anatomy scan. Course to date: chronic hypertension managed on labetalol from 9 weeks with a dose increase at 26 weeks; low-dose aspirin started at 12 weeks; normal anatomy scan at 20 weeks; first growth lag noted at 28 weeks with estimated fetal weight at the 6th percentile; twice-weekly surveillance since 29 weeks.

Pregnancy Symptoms

Mild dependent lower-extremity swelling for 3 weeks, improved with elevation and not sudden or facial. Intermittent bifrontal headache 2–3 times weekly, mild, relieved by acetaminophen and rest, without visual aura, photophobia, or persistence — she is well-versed in the distinction and reports none of the severe-feature qualities. **No visual changes** — no scotomata, blurring, or flashing lights. **No right upper quadrant or epigastric pain.** No nausea or vomiting. Reflux most evenings, positional. No pruritus, particularly none of the palms or soles. No dyspnea at rest; mild exertional breathlessness climbing one flight, stable. No chest pain, no palpitations, no orthopnea. No vaginal bleeding. No leakage of fluid. Irregular Braxton Hicks tightenings 3–5 daily, non-painful, non-progressive. No dysuria or urinary frequency beyond pregnancy norms. No fever or infectious symptoms.

Fetal Movement / Fetal Concerns

Subjectively reduced movement over the past 4–5 days — she describes the pattern as "still there but smaller and less often," with kick counts of 10 movements in 90–120 minutes where she previously reached 10 within 30–40 minutes. She has been counting daily since 29 weeks as instructed. No period of complete absence of movement. She specifically denies a sudden cessation. Her anxiety is high and explicitly informed by her prior pregnancy. Prior fetal testing has been reassuring: NSTs reactive on 08/06, 08/10, 08/13, and 08/17; BPP 8 of 8 on 08/13. No known fetal arrhythmia. Growth concern is established (see below). No fluid abnormality previously reported.

3b OBSTETRIC & MATERNAL MEDICAL HISTORY

Obstetric History

G3 P1011. (1) 2019: spontaneous conception, **preeclampsia with severe features diagnosed at 31+5** with blood pressures to 168/112, platelets 88,000, and AST 142; delivered at 32+4 by primary low transverse cesarean for a category II tracing during induction; male infant 1,420 g (3rd percentile — growth restricted), Apgars 6 and 8, NICU 41 days with respiratory distress requiring CPAP, now a healthy 7-year-old. Postpartum course complicated by persistent hypertension requiring 6 weeks of therapy and a readmission on day 6 for a blood pressure of 172/108. (2) 2022: first-trimester miscarriage at 9+2, managed medically with misoprostol, no dilation and curettage, no karyotype obtained. (3) Current pregnancy. No prior term delivery. No prior stillbirth, ectopic pregnancy, or shoulder dystocia. No postpartum hemorrhage. **One prior low transverse cesarean** with an operative report documenting a normal uterine closure and no extension.

Maternal Medical Conditions

Chronic hypertension diagnosed 2020 (post-pregnancy, never normalized), on labetalol pre-conception. Class II obesity, pre-pregnancy BMI 36.8. Vitamin D deficiency. Iron deficiency anemia of pregnancy. Subclinical hypothyroidism on levothyroxine since 2021, currently euthyroid. **No diabetes** — early HbA1c 5.3%, and a normal 1-hour glucose tolerance test at 25 weeks (118 mg/dL). No renal disease — baseline creatinine 0.72 with a normal early urine protein-to-creatinine ratio. No cardiac disease; echocardiogram 2021 normal with preserved ejection fraction and no left ventricular hypertrophy. No autoimmune disease — ANA and antiphospholipid antibodies negative in 2022 after the miscarriage. No thromboembolic history. No seizure disorder. No liver or pulmonary disease. No psychiatric diagnosis, though situational anxiety is prominent. No cancer or transplant history.

Diabetes / Glucose History

Not applicable — no pregestational or gestational diabetes. HbA1c 5.3% at 9 weeks; 1-hour 50 g glucose challenge 118 mg/dL at 25 weeks (normal, no 3-hour test needed). No glucose logs, no insulin or oral agents, no CGM. Documented explicitly because fetal growth restriction rather than macrosomia is the growth concern here, which is consistent with the

absence of diabetes.

Hypertension / Preeclampsia Risk

Chronic hypertension with high risk of superimposed preeclampsia — prior early-onset preeclampsia with severe features is the single strongest risk factor, compounded by obesity, chronic hypertension itself, and now fetal growth restriction. Home blood pressure log (twice daily, validated upper-arm cuff, technique verified in clinic): 2-week average **141/89**, with 6 of 28 readings at or above 150 systolic, highest 154/96 on 08/17 — a clear upward trend from a 132/84 average 4 weeks ago. Currently on **labetalol 400 mg three times daily** (increased from 200 mg three times daily at 26 weeks). **Aspirin 81 mg daily since 12 weeks**, adherent. Baseline labs at 10 weeks: creatinine 0.72, AST 19, ALT 22, platelets 244,000, urine protein-to-creatinine ratio 0.09 — giving a genuine baseline against which to judge superimposition. No severe-feature symptoms today.

3c PRETERM BIRTH, PLACENTA & FETAL GROWTH

Preterm Birth / Cervical Risk

Her prior preterm birth at 32+4 was **iatrogenic** (indicated delivery for preeclampsia with severe features), not spontaneous — a distinction that matters, since progesterone and cerclage are not indicated for iatrogenic preterm birth. No cervical insufficiency, no cerclage history, no cervical procedures. Cervical length 3.8 cm at 20 weeks (normal); not routinely re-measured given the iatrogenic mechanism. No progesterone in use. Braxton Hicks only, without pain or progression. No bleeding, no rupture of membranes, no pelvic pressure. Realistically, her greatest preterm birth risk this pregnancy is again iatrogenic.

Placenta / Amniotic Fluid Concerns

Placenta **posterior fundal**, well clear of the cervix (no previa or low-lying placenta), with normal echotexture and no lacunae, retroplacental clear-space loss, or bladder-wall interruption — **no features of placenta accreta spectrum**, which is relevant given her prior cesarean. Cord insertion central; no velamentous insertion, no vasa previa on prior colour Doppler. No abruption history and no bleeding this pregnancy. Amniotic fluid has been declining: maximum vertical pocket 4.8 cm at 28 weeks, 3.9 cm at 30 weeks, and 3.1 cm today — a downward trend approaching but not yet meeting oligohydramnios.

Fetal Growth / Doppler Concerns

Fetal growth restriction, established and progressive. Estimated fetal weight: 1,090 g at the 6th percentile (28+0), 1,290 g at the 4th percentile (30+0), and **1,412 g at the 3rd percentile today (31+2)** — falling percentiles across three serial measurements. Abdominal circumference has consistently lagged most, now below the 3rd percentile, with head circumference at the 24th percentile, giving an asymmetric, head-sparing pattern typical of placental insufficiency. **Umbilical artery Doppler pulsatility index has risen from the 78th percentile at 28 weeks to above the 95th percentile today, with persistent diastolic flow present and no absent or reversed end-diastolic flow.** Middle cerebral artery pulsatility index low at the 8th percentile, giving a **cerebroplacental ratio of 0.94 — abnormal (below 1.0)**, indicating brain-sparing redistribution. Ductus venosus a-wave positive and normal. Surveillance is currently twice weekly.

3d GENETICS, EXPOSURES & CONTEXT

Genetic / Anomaly Screening History

NIPT at 11+3: low risk for trisomies 21, 18, and 13, and for sex chromosome aneuploidy; fetal fraction 8.2% (adequate); female. Expanded carrier screening (274 genes): carrier for cystic fibrosis F508del — partner tested and negative, so the fetal risk is not increased. Nuchal translucency 1.6 mm (normal). **Anatomy ultrasound at 20+1: no structural anomalies**, all systems visualized, no soft markers — important, since it makes an aneuploid or syndromic cause of the growth restriction less likely and supports a placental etiology. Fetal echocardiogram not performed — no indication (normal cardiac views, no diabetes, no family history of congenital heart disease). No amniocentesis or CVS. The 2022 miscarriage was not karyotyped. No family genetic disorders. Genetic counseling not previously required; offered today in the context of early-onset growth restriction and declined after discussion.

Medication / Exposure History

Current: labetalol 400 mg three times daily, aspirin 81 mg daily, levothyroxine 75 mcg daily, prenatal vitamin with folic acid, ferrous sulfate 325 mg every other day with vitamin C, vitamin D3 2,000 IU daily, acetaminophen PRN, calcium carbonate PRN reflux. **All compatible with pregnancy.** No ACE inhibitor or angiotensin receptor blocker — she was transitioned off lisinopril pre-conception at 2 months before conception (documented, and appropriate given fetal renal toxicity). No

NSAIDs. No teratogen exposure. Never smoked; no alcohol or cannabis since a positive pregnancy test; no other substances. Works as a high-school chemistry teacher — laboratory exposures reviewed, she uses a fume hood and has been reassigned away from solvent-heavy demonstrations. No diagnostic radiation this pregnancy. No travel outside the country.

Infectious Disease / Immunization Context

No febrile or rash illness this pregnancy. No known COVID-19 or influenza exposure. No STI history; screening negative at intake and repeated in the third trimester. Hepatitis B surface antigen negative, hepatitis C negative, HIV non-reactive, syphilis non-reactive (repeated 08/12). Rubella and varicella immune. No TORCH exposure concern — specifically, **CMV and toxoplasmosis serology were sent at 28 weeks when growth restriction was identified**, to exclude an infectious cause (results below). No travel-related exposure, no Zika risk. Vaccines: Tdap given at 29 weeks; influenza due in the fall; COVID-19 booster given 04/2026; **RSV maternal vaccine discussed — appropriate window is 32–36 weeks and she plans to receive it, with the caveat that delivery may precede it, in which case infant nirsevimab would be used instead.**

Surgical / Gynecologic History

One prior low transverse cesarean (2019) — operative report reviewed, double-layer closure, no uterine extension, no classical or T-incision, no adhesive disease documented. No myomectomy or other uterine surgery. No cervical procedures, no LEEP or conization. Laparoscopic appendectomy 2014. No fibroids, no congenital uterine anomaly. No infertility treatment — both pregnancies spontaneous.

Family History

Mother: preeclampsia in both of her pregnancies, chronic hypertension, type 2 diabetes at 55. Father: hypertension, myocardial infarction at 62. Sister, 35: preeclampsia at 34 weeks in her first pregnancy and a growth-restricted infant — a **strong familial pattern of placental disease**. Maternal grandmother: stroke. No congenital anomalies, no genetic disorders, no intellectual disability, no recurrent pregnancy loss beyond her own single miscarriage, no stillbirth, no known clotting disorders, no cystic fibrosis in the family despite her carrier status.

Social History / Safety

Lives with her husband and their 7-year-old son in a stable owned home. Husband employed and highly involved; he attends most appointments and attended today. Strong extended family support locally, including her sister and mother. Reliable vehicle, 22 minutes from the delivery hospital. No food insecurity. Employer-sponsored insurance with good coverage; short-term disability arranged and paperwork completed. Intimate partner violence screening negative — performed privately, she reports feeling safe and denies coercion. Never smoked, no alcohol or substance use in pregnancy. Occupational exposures mitigated as above. **No barriers to prenatal care** — she has attended every scheduled appointment; if anything, her anxiety drives over-vigilance rather than avoidance.

Pertinent Negatives

Denies vaginal bleeding and leakage of fluid. No regular or painful contractions. **Movement reduced but present — no absence of movement.** No severe or persistent headache, no visual changes or scotomata, no right upper quadrant or epigastric pain, no sudden facial or hand swelling, no chest pain, no severe dyspnea or orthopnea, no syncope or presyncope. No fever, chills, or dysuria. No severe abdominal pain and no focal uterine tenderness. No pruritus of palms or soles. No seizure activity, no confusion, no visual scintillation.

ROS MATERNAL-FETAL MEDICINE REVIEW OF SYSTEMS

4 PERTINENT POSITIVES & NEGATIVES

Obstetric symptoms	**Positive: irregular non-painful Braxton Hicks 3–5 daily. Negative for vaginal bleeding, leakage of fluid, regular contractions, pelvic pressure, and abdominal pain.**
Fetal movement	**Positive: subjectively reduced movement over 4–5 days with kick counts to 10 taking 90–120 minutes (previously**

	30–40). Negative for complete absence of movement.
Preeclampsia symptom review	Positive: mild intermittent bifrontal headache relieved by acetaminophen; mild dependent pedal edema. Negative for severe or persistent headache, visual changes, scotomata, right upper quadrant or epigastric pain, sudden facial or hand swelling, dizziness, and syncope.
Gastrointestinal	Positive: positional evening reflux. Negative for nausea, vomiting, dehydration, jaundice, and bowel changes. Negative for pruritus of palms and soles (cholestasis screening).
Genitourinary	Negative for dysuria, urinary frequency beyond pregnancy norms, flank pain, fever, and infectious symptoms.
Cardiopulmonary	Positive: mild exertional breathlessness climbing one flight, stable and unchanged. Negative for chest pain, palpitations, orthopnea, paroxysmal nocturnal dyspnea, and pathologic edema.
Metabolic and medication	Positive: home blood pressures trending up with 6 of 28 readings at or above 150 systolic. Negative for hypoglycemia, glucose concerns, and labetalol side effects (no bronchospasm, no symptomatic bradycardia, no scalp tingling).
Psychosocial	Positive: marked anticipatory anxiety anchored to her 2019 pregnancy; GAD-7 12 (moderate). Negative for depression (PHQ-9 5), suicidal ideation, safety concerns, and barriers to prenatal care.

O OBJECTIVE

5 MATERNAL & FETAL FINDINGS

V VITALS

TEMPERATURE
98.1 °F

BLOOD PRESSURE
148/94 mmHg, repeated after 10 min rest 144/92 (seated, large cuff, left arm)

HEART RATE
78 bpm, regular

RESPIRATORY RATE
18/min

OXYGEN SATURATION
98% on room air

HEIGHT
5′ 3″ (160 cm)

WEIGHT
214 lb (97.1 kg)

BMI
37.9 kg/m² (pre-pregnancy 36.8)

TOTAL PREGNANCY WEIGHT GAIN
+11 lb at 31+2 — below the 11–20 lb range recommended for class II obesity but not falling

PAIN SCORE
1/10 — no pain

GESTATIONAL AGE
31 weeks 2 days by 8+3 crown-rump length; dating unchanged

5a FETAL ASSESSMENT

FETAL HEART RATE

142 bpm, moderate variability, reactive

FUNDAL HEIGHT

27 cm — lagging 4 cm behind gestational age, concordant with growth restriction

PRESENTATION

Cephalic, longitudinal lie, spine to maternal left

FETAL MOVEMENT OBSERVED / REPORTED

Movement observed during scanning — limb and trunk movement present, subjectively less vigorous; patient-reported reduction as above

NST / BPP RESULT

NST reactive — 2 accelerations of 15 bpm for 15 s in 20 min, moderate variability, no decelerations, baseline 140. BPP 8 of 8 (tone, movement, breathing, and fluid all present — single deepest pocket 3.1 cm still above the 2 cm threshold)

ULTRASOUND FINDINGS

Growth ultrasound with full Doppler assessment performed — detailed below

5b MATERNAL EXAMINATION

General Appearance

Alert, well groomed, conversant, no distress. Obese gravid habitus. Well hydrated. Ambulates independently. Visibly anxious — tearful when discussing her prior delivery — but composed, organized, and fully engaged in decision-making. Husband present and supportive.

Cardiovascular

Rate 78 and regular. S1 and S2 normal with a soft grade 1/6 systolic flow murmur at the left upper sternal border, unchanged from prior visits and consistent with normal pregnancy hemodynamics. Radial and pedal pulses 2+ and symmetric. Capillary refill brisk. **Trace-to-1+ pitting pedal and pretibial edema bilaterally, symmetric, no hand or facial edema.** No jugular venous distension. No carotid bruits. Heart sounds not muffled; no rub.

Pulmonary

Normal effort at rest, speaking in full sentences. Clear to auscultation bilaterally with no crackles, wheeze, or reduced bases — specifically assessed for pulmonary edema given the rising blood pressures. No accessory muscle use, no orthopnea when reclined for the scan. Room air, saturation 98%.

Abdomen / Gravid Uterus

Gravid, non-tender, soft between tightenings. **Fundal height 27 cm at 31+2 — a 4 cm lag**, corroborating the sonographic growth restriction. Uterus non-irritable on palpation; two brief non-painful tightenings observed over 20 minutes, neither palpably firm or sustained. **No focal uterine tenderness and no tetanic contraction** — deliberately assessed to exclude abruption. Fetus cephalic by Leopold manoeuvres. Well-healed Pfannenstiel scar from 2019 without tenderness, dehiscence, or hernia. No peritoneal signs. Laparoscopic port scars intact.

Extremities

Trace-to-1+ symmetric pitting edema of the feet and lower legs, improving with elevation, without pitting above the knees. **No calf tenderness, no unilateral swelling, no palpable cords, no Homan sign** — documented given pregnancy-associated thromboembolic risk and her obesity. Mild varicosities bilaterally, chronic. **Deep tendon reflexes 2+ and symmetric at the patellae with no clonus** — a key negative in the hypertensive assessment. Hands and face without edema.

Neurologic

Alert and fully oriented. Speech fluent, thought organized. Cranial nerves II–XII grossly intact; visual fields full to confrontation and no visual field defect or scotoma elicited. No focal motor or sensory deficit. Gait steady. **No clonus, no hyperreflexia**, no papilledema on limited fundoscopic view. No confusion, tremor, or agitation. No seizure activity

witnessed or reported.

Skin

Warm and well perfused. No rash. **No jaundice or scleral icterus**, no excoriations, and no palmar or plantar findings — assessed for cholestasis. No petechiae, purpura, or ecchymoses (relevant given her prior thrombocytopenia at 88,000 in 2019). Linea nigra and abdominal striae present, physiologic. Well-healed scars as above. No injection-site reactions.

Pelvic / Cervical Exam

Not performed this visit — no indication: no bleeding, no leakage of fluid, no regular or painful contractions, no pelvic pressure, and no clinical suspicion of labor or rupture of membranes. Transvaginal cervical length not repeated, as her prior preterm birth was iatrogenic rather than spontaneous. Deferral documented deliberately, along with the reasoning.

US ULTRASOUND / FETAL IMAGING ASSESSMENT

6 FINDINGS — GROWTH ULTRASOUND WITH DOPPLERS, PERFORMED TODAY

Gestational age by ultrasound	**31 weeks 2 days — assigned by the 8+3 crown-rump length; today's biometry is not used to redate, correctly, since redating a growth-restricted fetus would mask the very problem being tracked.**
Fetal number and chorionicity	**Singleton intrauterine pregnancy. Not applicable for chorionicity.**
Fetal presentation	**Cephalic, longitudinal, spine to maternal left, occiput transverse.**
Placental location and appearance	**Posterior fundal, well clear of the internal os. Grade I–II maturity, homogeneous echotexture. No lacunae, no loss of the retroplacental clear space, no bladder-wall interruption, no bridging vessels — no features of placenta accreta spectrum despite the prior cesarean. Central cord insertion; no velamentous insertion, no vasa previa on colour Doppler. No retroplacental collection or abruption.**
Amniotic fluid volume	**Maximum vertical pocket 3.1 cm; amniotic fluid index 7.4 cm. Declining trend: 4.8 cm (28+0), 3.9 cm (30+0), 3.1 cm today. Still above the oligohydramnios thresholds (MVP under 2 cm, AFI under 5 cm) but trending toward them — consistent with worsening placental function and fetal blood-flow redistribution away from the kidneys.**
Estimated fetal weight and percentile	**1,412 g — 3rd percentile (Hadlock, sex-specific). Serial: 1,090 g / 6th percentile (28+0); 1,290 g / 4th percentile (30+0); 1,412 g / 3rd percentile today. Interval growth velocity approximately 87 g per week against an expected 180–200 g — a falling percentile trajectory, not a small-but-growing fetus, which is the distinction that matters clinically.**
Abdominal circumference percentile	**Below the 3rd percentile (25.4 cm), the most affected parameter. Head circumference 28.9 cm at the 24th percentile; biparietal diameter 20th percentile; femur length 11th percentile. The head-sparing, abdomen-lagging asymmetry is the classic signature of placental insufficiency rather than a constitutionally small or genetically small fetus.**

Anatomy findings or anomalies	**No structural anomalies** on today's targeted re-survey or on the 20+1 detailed anatomy scan. Cranium, midline structures, cardiac four-chamber and outflow views, diaphragm, abdominal wall, stomach, kidneys, bladder, spine, and extremities all normal. No soft markers, no echogenic bowel, no ventriculomegaly, no pericardial or pleural effusion, no ascites, no skin edema — specifically, **no hydropic features.** Bladder and stomach both visualized (arguing against severe renal or gastrointestinal compromise).
Cervical length	Not measured this visit — transvaginal assessment not indicated given an iatrogenic rather than spontaneous prior preterm birth, a normal 3.8 cm length at 20 weeks, and no current preterm labor symptoms. Rationale documented.
Doppler studies	**Umbilical artery: pulsatility index 1.42 — above the 95th percentile** (28 weeks: 78th percentile; 30 weeks: 91st percentile). **End-diastolic flow present and positive throughout — not absent, not reversed.** Systolic/diastolic ratio 4.1. **Middle cerebral artery: pulsatility index 1.33 — 8th percentile (low), peak systolic velocity 42 cm/s (normal, no anaemia signal). Cerebroplacental ratio 0.94 — abnormal (below 1.0), indicating brain-sparing redistribution. Ductus venosus: a-wave positive and forward, pulsatility index normal — reassuring, and the key discriminator against imminent decompensation.** Uterine arteries bilaterally notched with elevated pulsatility indices, consistent with abnormal placentation. Umbilical vein without pulsations.
Biophysical profile	**8 of 8 —** fetal tone, gross body movements, and rhythmic breathing movements all present within 30 minutes; fluid criterion met at a single deepest pocket of 3.1 cm. Performed today given the reported decreased movement; the normal result is genuinely reassuring against acute compromise.
Fetal cardiac views / echocardiogram	Four-chamber, outflow tract, and three-vessel views normal on today's survey. Formal fetal echocardiogram not indicated — no structural concern, no diabetes, no family history of congenital heart disease, no arrhythmia. Rate and rhythm regular at 142 with no ectopy.
Comparison to prior ultrasound	Direct comparison with 28+0 and 30+0 studies: estimated fetal weight percentile 6 to 4 to 3; abdominal circumference from the 8th to below the 3rd percentile; maximum vertical pocket 4.8 to 3.9 to 3.1 cm; umbilical artery pulsatility index from the 78th to the 91st to above the 95th percentile; cerebroplacental ratio from 1.31 to 1.08 to 0.94. **Every parameter is moving in the same adverse direction.**
Limitations	Image quality moderate, limited by maternal habitus (BMI 37.9) and by an anterior fetal spine position for part of the study — estimated fetal weight carries a 10–15% margin of error at this gestation and in this body habitus, and this uncertainty was stated to the patient. Doppler waveforms were technically adequate with reproducible measurements over three cardiac cycles at each site.
Recommendations for follow-up imaging or surveillance	**Escalate to twice-weekly umbilical artery and middle**

	cerebral artery Dopplers with BPP, plus twice-weekly NST (from twice-weekly NST with weekly Doppler). Repeat growth ultrasound in 2 weeks — no sooner, since growth cannot be reliably reassessed at shorter intervals. Ductus venosus assessment at every visit, as its deterioration would prompt delivery. Immediate reassessment for absent or reversed end-diastolic flow, a reversed ductus venosus a-wave, oligohydramnios, or a non-reassuring NST or BPP.

HR HIGH-RISK PREGNANCY ASSESSMENT DOMAINS

7 RISK-SPECIFIC ASSESSMENT

Maternal medical condition and pregnancy impact	**Chronic hypertension, now inadequately controlled on maximal-range labetalol with a home average of 141/89 and office readings of 148/94 and 144/92 — requiring escalation. Subclinical hypothyroidism euthyroid on levothyroxine. Class II obesity, which raises preeclampsia risk, limits imaging quality, and complicates any operative delivery.**
Fetal anomaly or genetic risk	**Low. Normal detailed anatomy scan, low-risk NIPT with adequate fetal fraction, normal nuchal translucency, and no soft markers — making aneuploidy or a syndromic cause of the growth restriction unlikely and supporting a placental mechanism. Genetic counseling offered and declined.**
Fetal growth risk	**High and actively worsening. Estimated fetal weight at the 3rd percentile with a falling trajectory across three studies, abdominal circumference below the 3rd percentile, asymmetric head-sparing pattern, abnormal umbilical artery Doppler, and a cerebroplacental ratio of 0.94. This is the dominant clinical problem.**
Preterm birth risk	**High, but iatrogenic rather than spontaneous. Delivery is likely to be indicated before 37 weeks and plausibly before 34 weeks, driven by hypertension or Doppler deterioration. No cervical or contraction-based spontaneous risk identified.**
Hypertensive disorder risk	**Very high. Prior preeclampsia with severe features at 31+5 (recurrence risk in the range of 25–50% and higher with early onset), chronic hypertension, obesity, and a strong family history in mother and sister. Rising blood pressures plus fetal growth restriction is the classic prodrome of superimposed preeclampsia, even with currently normal labs.**
Diabetes or metabolic risk	**Low — normal HbA1c and normal glucose challenge. Not a contributor. Documented because growth restriction rather than macrosomia is consistent with its absence.**
Placental abnormality risk	**Abnormal placental function is established (bilateral uterine artery notching, elevated umbilical artery pulsatility index, declining fluid). No accreta spectrum features despite the prior cesarean, and no previa, vasa previa, or abruption.**

Multiple gestation risk	**Not applicable — singleton.**
Thromboembolic risk	**Moderate — obesity, pregnancy, likely cesarean delivery, and reduced mobility if admitted. No personal or family history and negative antiphospholipid antibodies. Mechanical prophylaxis and early ambulation planned peripartum; no antepartum anticoagulation indicated.**
Medication or exposure risk	**Low. All current medications are pregnancy-compatible; the ACE inhibitor was appropriately stopped pre-conception. No teratogen, radiation, or substance exposure. Occupational chemistry-laboratory exposures mitigated.**
Prior pregnancy complication recurrence risk	**The organizing feature of this pregnancy. Prior early-onset preeclampsia with severe features plus a growth-restricted infant at 32+4 — and the current pregnancy is following the same trajectory roughly one to two weeks later in gestation. Aspirin from 12 weeks is the appropriate prophylaxis and is in place.**
Delivery timing and location considerations	**Delivery at a facility with a level III NICU and 24-hour obstetric anaesthesia — already the plan; she delivers at this regional center, not at a community site. Timing: 34 to 37 weeks for growth restriction with an elevated umbilical artery pulsatility index and preserved end-diastolic flow, moving earlier if end-diastolic flow becomes absent or reversed, the ductus venosus a-wave reverses, surveillance becomes non-reassuring, oligohydramnios develops, or preeclampsia with severe features supervenes. Repeat cesarean anticipated given the prior cesarean plus growth restriction with abnormal Dopplers.**
Need for co-management or transfer	**Co-management continues — MFM leading surveillance and delivery timing, with the midwifery practice continuing routine prenatal care. Care is being formally transferred to the MFM-physician service for delivery, since a growth-restricted fetus with abnormal Dopplers and probable superimposed preeclampsia exceeds midwifery scope. Neonatology and anaesthesia consultations requested.**

PS PRENATAL SCREENING / PREVENTIVE CARE

8 PRENATAL CARE STATUS & COUNSELING NEEDS

Dating and viability	**Confirmed at 8+3 by crown-rump length, concordant with a certain last menstrual period; dating unchanged all pregnancy and deliberately not revised on growth biometry.**
Prenatal lab status	**Complete. Blood type O positive, antibody screen negative. Rubella and varicella immune. Hepatitis B and C, HIV, and syphilis all negative, with syphilis and HIV repeated 08/12. Urine culture negative. Hemoglobinopathy screening normal.**
Aneuploidy screening	**NIPT at 11+3 low risk for trisomies 21, 18, 13 and sex chromosome aneuploidy; fetal fraction 8.2%. Nuchal**

	translucency 1.6 mm. No diagnostic testing performed or indicated.
Carrier screening	Expanded 274-gene panel: carrier for cystic fibrosis F508del. Partner tested and negative — fetal risk not increased. No other carrier findings.
Anatomy ultrasound	Completed 20+1 — normal, all structures visualized, no soft markers. Targeted re-survey today also normal.
Fetal echocardiogram	Not indicated — normal cardiac views, no diabetes, no family history of congenital heart disease, no arrhythmia.
Gestational diabetes screening	Completed at 25 weeks — 1-hour 50 g challenge 118 mg/dL, normal. No 3-hour test required.
Rh status and Rh immune globulin	O positive — Rh immune globulin not required. Antibody screen negative.
Group B strep screening	Not yet due (35–37 weeks). Given the likelihood of delivery before 37 weeks, GBS status will be unknown at delivery and intrapartum prophylaxis should be given per preterm protocol — flagged now so it is not overlooked. Culture to be obtained if a preterm delivery becomes imminent.
Vaccinations	Tdap given 29+0. COVID-19 booster 04/2026. Influenza due in the autumn — scheduled. RSV maternal vaccine: window is 32–36 weeks, so she is eligible in under a week; counseled to receive it promptly, since delivery may precede the window's close, in which case infant nirsevimab would be arranged instead.
Aspirin prophylaxis	81 mg daily since 12 weeks, adherent — correctly indicated by prior preeclampsia, chronic hypertension, and obesity. Continue; discontinuation timing relative to neuraxial anaesthesia discussed with anaesthesia (low-dose aspirin does not preclude a spinal or epidural).
Preterm birth prevention	Progesterone and cerclage not indicated — her prior preterm birth was iatrogenic. Antenatal corticosteroids discussed and timed to delivery rather than given prophylactically (see plan).
Preeclampsia precautions	Reviewed in detail at every visit and again today, with a written symptom card: severe or persistent headache, visual changes, right upper quadrant or epigastric pain, sudden facial or hand swelling, shortness of breath, and any blood pressure at or above 160/110 — each prompting immediate presentation to labour and delivery rather than a clinic call.
Fetal movement counseling	Reinforced with a specific protocol: daily kick counts at the same time, expecting 10 movements within 2 hours, and immediate presentation for any reduction from her own baseline — not waiting for absence. Her recognition of the current change and prompt reporting were affirmed as exactly correct.
Labor precautions	Reviewed: regular painful contractions, any vaginal bleeding, leakage of fluid, and decreased fetal movement. Given the prior cesarean, she was told to present promptly for any of these and not to wait at home. Repeat cesarean is anticipated; trial of labour is not being pursued in the

	setting of growth restriction with abnormal Dopplers.
Postpartum and breastfeeding planning	**Discussed early: postpartum hypertension is highly likely given her 2019 readmission on day 6 — a home blood pressure cuff is already in place, with a plan for readings twice daily for 2 weeks and a blood pressure check at 5–7 days rather than at 6 weeks alone. Labetalol is compatible with lactation. NICU admission is probable at this size and gestation; lactation consultation and early pumping support arranged in advance. Contraception discussed — she is considering permanent contraception at the time of cesarean and will confirm before delivery.**

PR PROCEDURES PERFORMED

9 PROCEDURE DOCUMENTATION

Procedure, indication, gestational age, consent, guidance

Detailed obstetric ultrasound with fetal biometry and multivessel Doppler assessment, plus biophysical profile and nonstress test — performed today at 31 weeks 2 days. Indications: fetal growth restriction with serial percentile decline, patient-reported decreased fetal movement, and chronic hypertension with rising blood pressures. Verbal consent obtained after explanation of the purpose and limits of each test. Transabdominal approach; colour and pulsed-wave Doppler with thermal and mechanical indices kept within safety limits and total exposure time minimised. No ultrasound-guided invasive procedure performed.

Technique, specimens, fetal status before and after

Biometry obtained in triplicate at each parameter with the median reported. Umbilical artery sampled at a free loop of cord over three consecutive uniform cardiac cycles; middle cerebral artery sampled in the proximal third with an angle of insonation under 15 degrees and no vessel compression; ductus venosus sampled at the inlet. Nonstress test recorded externally for 20 minutes, and BPP scored over 30 minutes. No specimens obtained — no amniocentesis, no chorionic villus sampling, and no Rh immune globulin required (O positive). **Fetal status before: heart rate 142, moderate variability. Fetal status after: heart rate 144, moderate variability, no decelerations — unchanged and reassuring.**

Tolerance, complications, aftercare, follow-up

Patient tolerated the 55-minute study well; positioned in left lateral tilt to avoid supine hypotension, with one short break. Blood pressure remeasured after rest as documented. **No complications.** Aftercare: continue daily kick counts, twice-daily home blood pressures with the log, and the written preeclampsia symptom card. All Doppler and BPP findings were reviewed with her and her husband on the screen, with the trend printed for her records. Follow-up: return in 3–4 days for NST with Dopplers, then twice weekly; repeat growth ultrasound in 2 weeks.

ST SCREENING / ASSESSMENT TOOLS

10 STANDARDIZED TOOLS & INTERPRETATION

Edinburgh Postnatal Depression Scale	**9 of 30 — below the threshold of 13, with the anxiety subscale items driving most of the score. Item 10 (self-harm) = 0. Prior 06/2026: 7. To be repeated postpartum given her prior NICU course.**
PHQ-9	**5 — mild, sleep and fatigue items predominant. No anhedonia, no suicidal ideation.**
GAD-7	**12 — moderate anxiety, up from 8 at 24 weeks. Content is**

	specific and reality-based: fear of recurrence, of another NICU stay, and of a preterm delivery. Perinatal behavioural health referral offered and accepted.
Intimate partner violence screening	**Performed privately with her husband stepped out — negative. Reports feeling safe; denies coercion or fear.**
Diabetes glucose log review	**Not applicable — no diabetes, normal glucose challenge at 25 weeks. No logs kept.**
Blood pressure log review	**28 readings over 14 days, twice daily, validated upper-arm device with technique verified in clinic. Average 141/89. Six readings at or above 150 systolic; highest 154/96 (08/17). No reading at or above 160/110. Four-week comparison: average was 132/84 — an unmistakable upward trend and the basis for the medication change today.**
Preeclampsia symptom checklist	**Completed with her: positive for mild intermittent headache and dependent oedema; negative for severe or persistent headache, visual changes, right upper quadrant or epigastric pain, sudden facial or hand swelling, dyspnoea, and reduced urine output. No severe features.**
Genetic risk assessment	**Low-risk NIPT, normal anatomy scan, normal nuchal translucency, no consanguinity, no family history of anomalies or genetic disease; partner negative for cystic fibrosis. Formal genetic counselling offered in the context of early growth restriction and declined after discussion.**
Social determinants of health screening	**Negative across housing, food, transportation, utilities, finances, and childcare. Insurance adequate; disability paperwork complete. No access barriers.**
Substance use screening	**Never smoked. No alcohol or cannabis since conception. No other substances. 4Ps Plus negative. Urine toxicology not indicated.**
Fetal surveillance tools	**NST reactive today; BPP 8 of 8. Prior NSTs reactive on 08/06, 08/10, 08/13, and 08/17; BPP 8 of 8 on 08/13. Doppler trend (the most informative parameter): umbilical artery pulsatility index 78th to 91st to above the 95th percentile, and cerebroplacental ratio 1.31 to 1.08 to 0.94 across 28, 30, and 31+2 weeks.**

L LABORATORY AND DIAGNOSTIC RESULTS

11 RESULTS REVIEWED OR ORDERED

Prenatal Labs

Blood type O positive, antibody screen negative. CBC at intake: haemoglobin 11.8, platelets 244,000. Rubella immune, varicella immune. Hepatitis B surface antigen negative, hepatitis C antibody negative, HIV non-reactive, syphilis non-reactive (HIV and syphilis repeated 08/12 — both negative). Gonorrhoea and chlamydia negative at intake and on third-trimester repeat. Urine culture negative. Haemoglobin electrophoresis normal. Group B strep not yet due — flagged above given the likelihood of preterm delivery.

Genetic Testing

NIPT (11+3): low risk trisomy 21, 18, 13 and sex chromosome aneuploidy; fetal fraction 8.2%; female. Expanded carrier screening: heterozygous cystic fibrosis F508del, partner negative. No CVS, no amniocentesis, no microarray or karyotype.

The 2022 miscarriage was not karyotyped. Genetic counselling offered and declined.

Maternal Medical Labs (preeclampsia laboratory assessment, 08/20/2026)

Today: platelets 198,000 (baseline 244,000 — a downward drift within the normal range, worth watching); creatinine **0.94** mg/dL (baseline 0.72 — a 31% rise, still normal but a real change); AST **34** and ALT **38** U/L (baseline 19 and 22 — rising, still below twice the upper limit); LDH 208; uric acid 5.8 mg/dL (up from 3.9); **urine protein-to-creatinine ratio 0.24** (baseline 0.09 — rising but below the 0.30 diagnostic threshold). Haemoglobin 10.6 g/dL, ferritin 18 ng/mL — iron deficiency, improving on alternate-day iron. TSH 1.9 with normal free T4 — euthyroid on levothyroxine 75 mcg. Coagulation studies normal (PT, aPTT, fibrinogen 402). Bile acids **4.2 µmol/L, normal** — obtained to exclude cholestasis despite absent pruritus. Antiphospholipid antibodies and lupus anticoagulant negative (2022). **Interpretation: every preeclampsia parameter is drifting in the adverse direction from a documented baseline, yet none has crossed a diagnostic threshold — she does not meet criteria for superimposed preeclampsia today, and this is precisely why the interval must shorten.**

Fetal / Obstetric Testing

Today: growth ultrasound with umbilical artery, middle cerebral artery, and ductus venosus Dopplers; BPP 8 of 8; NST reactive — all detailed above. Serial growth ultrasounds 28+0, 30+0, 31+2. Anatomy ultrasound 20+1 normal. No fetal MRI (not indicated). No fetal echocardiogram (not indicated). Cervical length 3.8 cm at 20 weeks, not repeated. Uterine artery Dopplers bilaterally notched with elevated pulsatility indices, consistent with abnormal placentation.

Infectious Testing

CMV IgG positive and IgM negative with a high avidity index — consistent with remote immunity, excluding primary CMV as a cause of the growth restriction. **Toxoplasma IgG and IgM both negative** — not immune, no acute infection; food and cat-litter precautions reinforced. Parvovirus B19 IgG positive, IgM negative — remote immunity, and no hydropic features on today's scan in any case. Varicella immune. No Zika exposure or testing indicated. COVID-19 and influenza testing not indicated (asymptomatic). Urine culture negative 08/12.

Prior Records Reviewed

2019 delivery records in full — preeclampsia with severe features at 31+5 (BP to 168/112, platelets 88,000, AST 142), the operative report for the primary low transverse cesarean at 32+4 documenting a double-layer closure without extension, the 1,420 g growth-restricted male infant with 41 days in the NICU, and the day-6 readmission for a BP of 172/108. 2022 miscarriage records and the subsequent negative thrombophilia and antiphospholipid workup. 2021 echocardiogram (normal). All prior ultrasound reports and images from this pregnancy, re-measured for direct comparison. Midwifery prenatal record with the complete blood pressure and weight trend. Pharmacy fill history confirming labetalol, aspirin, and levothyroxine adherence. Her own 14-day home blood pressure log and kick-count diary.

A ASSESSMENT

12 MATERNAL-FETAL MEDICINE CLINICAL INTERPRETATION

- **Fetal growth restriction, late-onset by timing but progressive and Doppler-abnormal — the dominant problem.** Estimated fetal weight 1,412 g at the 3rd percentile at 31+2, with a falling trajectory across three serial studies (6th to 4th to 3rd percentile), abdominal circumference below the 3rd percentile, an asymmetric head-sparing pattern, **umbilical artery pulsatility index above the 95th percentile with end-diastolic flow still present**, and a **cerebroplacental ratio of 0.94** indicating brain-sparing redistribution. Declining amniotic fluid (4.8 to 3.9 to 3.1 cm) corroborates worsening placental function. Crucially, the **ductus venosus a-wave remains positive**, the BPP is 8 of 8, and the NST is reactive — so there is placental insufficiency with compensated fetal adaptation, not decompensation. This distinction is what permits continued surveillance rather than delivery today.
- **Chronic hypertension, now inadequately controlled, with impending superimposed preeclampsia.** Home average 141/89 with 6 of 28 readings at or above 150 systolic and a clear rise from a 132/84 average four weeks ago; office readings 148/94 and 144/92 on repeat. Labetalol at 400 mg three times daily is at the practical ceiling

for this agent, so a second agent is required rather than a further increase.

- **Superimposed preeclampsia: not yet diagnostic, but every parameter is moving.** Against her own documented 10-week baseline — platelets 244,000 to 198,000; creatinine 0.72 to 0.94 (a 31% rise); AST 19 to 34 and ALT 22 to 38; uric acid 3.9 to 5.8; urine protein-to-creatinine ratio 0.09 to 0.24. None has crossed a threshold, and she has no severe features on symptom review or examination (no clonus, no hyperreflexia, no epigastric tenderness, no visual findings, no pulmonary oedema). **The value of a baseline is exactly this: a trend is visible before any single value becomes abnormal.** This is a prodrome, and it should be managed as one.
- **Decreased fetal movement — reported, evaluated, and currently reassured.** A 4–5 day subjective reduction with kick counts to 10 taking 90–120 minutes rather than 30–40. Today's reactive NST and BPP of 8 of 8 exclude acute compromise. However, in a growth-restricted fetus with redistribution, reduced movement can reflect energy conservation, so the symptom is not dismissed — it is one of the reasons surveillance is being intensified. Her prompt reporting was correct and was affirmed as such.
- **Recurrence pattern strongly mirrors her 2019 pregnancy, roughly one to two weeks later in gestation.** Then: preeclampsia with severe features at 31+5 and delivery at 32+4 with a 1,420 g growth-restricted infant. Now: at 31+2 with rising pressures, drifting labs, and a 1,412 g fetus at the 3rd percentile. Aspirin from 12 weeks was the correct prophylaxis and may have modified the timing, but has not prevented the process. The family history in her mother and sister reinforces a heritable placental phenotype.
- **Differential considered and addressed:** constitutional smallness (excluded — falling percentiles with abnormal Dopplers and asymmetric biometry, not a small-but-tracking fetus); aneuploidy or a genetic syndrome (unlikely — low-risk NIPT with adequate fetal fraction, normal detailed anatomy scan, no soft markers); congenital infection (excluded — CMV remotely immune with high avidity, toxoplasma negative, parvovirus remotely immune, no hydrops or echogenic bowel); intrahepatic cholestasis (excluded — bile acids 4.2 with no pruritus of palms or soles); placental abruption (excluded — no bleeding, no focal tenderness, non-irritable uterus, no retroplacental collection); placenta accreta spectrum despite the prior cesarean (excluded on imaging); antiphospholipid syndrome (excluded on 2022 testing); thyroid dysfunction (excluded — euthyroid); and gestational diabetes (excluded — normal challenge, and macrosomia is not the phenotype).
- **Maternal condition stable; fetal condition compensated but deteriorating.** No severe-feature symptoms, no clonus, no pulmonary oedema, no thrombocytopenia or transaminitis at threshold, no proteinuria at threshold. Reactive NST, BPP 8 of 8, positive ductus venosus a-wave. There is no indication for delivery today — and equally no justification for maintaining the current surveillance interval.
- **Delivery timing:** for growth restriction with an elevated umbilical artery pulsatility index but preserved end-diastolic flow, the appropriate window is **34 to 37 weeks**, and the presence of an abnormal cerebroplacental ratio with declining fluid pushes toward the earlier end — a target of **34 to 36 weeks** is reasonable. That target moves earlier immediately if end-diastolic flow becomes absent or reversed, the ductus venosus a-wave reverses, surveillance becomes non-reassuring, oligohydramnios develops, or preeclampsia with severe features supervenes. Mode: **repeat cesarean**, given the prior cesarean combined with growth restriction and abnormal Dopplers, which makes a trial of labour unattractive. Location: this regional centre with a level III NICU and 24-hour obstetric anaesthesia.
- **Antenatal corticosteroids: indicated soon, and timing matters.** Betamethasone gives maximal benefit within 7 days of delivery, and repeated or badly timed courses are not benign. With delivery unlikely today but plausible within one to two weeks, the correct approach is a single course administered when delivery becomes likely within 7 days — that is, on the next adverse change or when a delivery date is set — rather than a speculative course now.
- **Additional active issues:** moderate situational anxiety (GAD-7 12, up from 8) that is entirely reality-based and warrants perinatal behavioural health support; iron deficiency anaemia (haemoglobin 10.6, ferritin 18) improving on alternate-day iron and worth optimising before a probable cesarean; GBS status that will be unknown at a preterm delivery and requires intrapartum prophylaxis per protocol; an RSV vaccination window opening in under a week that delivery may pre-empt; and a high likelihood of postpartum hypertension given her 2019 day-6 readmission, which needs a plan made in advance rather than at discharge.

- **Overall:** a compensated but clearly deteriorating placental insufficiency picture in a woman with chronic hypertension and a prodrome of superimposed preeclampsia, at 31+2, recapitulating her 2019 course. The clinical task now is intensified surveillance, better blood pressure control, corticosteroid readiness, multidisciplinary delivery planning, and a genuinely low threshold for admission — not delivery today.

P PLAN

13 MANAGEMENT BY PROBLEM

- **Antenatal surveillance — escalated today.** From twice-weekly NST with weekly Dopplers to **twice-weekly NST plus twice-weekly umbilical artery, middle cerebral artery, and ductus venosus Dopplers with BPP**. Next visit in 3–4 days (08/24), then Mondays and Thursdays. Repeat growth ultrasound in 2 weeks (09/03) — not sooner, as growth cannot be reliably reassessed over shorter intervals. Explicit escalation triggers documented and given to her in writing: **absent or reversed umbilical artery end-diastolic flow, a reversed ductus venosus a-wave, maximum vertical pocket below 2 cm, non-reactive NST, BPP of 6 or less, or any severe-feature symptom — each prompting immediate presentation and probable admission and delivery.**
- **Blood pressure control — second agent added.** Labetalol continued at 400 mg three times daily (at ceiling; further increase offers little and risks fatigue and bronchospasm). **Nifedipine extended-release 30 mg daily started today**, with a target of 130–150 systolic and 80–100 diastolic — deliberately not lower, to preserve uteroplacental perfusion in an already-compromised fetus, a point explained to her carefully. Continue twice-daily home readings with the log. **Present immediately to labour and delivery for any reading at or above 160/110** (not a clinic call). Repeat blood pressure check in clinic in 3–4 days at her surveillance visit. Basic metabolic panel in 1 week after the nifedipine start.
- **Preeclampsia laboratory surveillance — interval shortened.** Given the drift in every parameter against her documented baseline, repeat **CBC, comprehensive metabolic panel with liver enzymes, LDH, uric acid, and urine protein-to-creatinine ratio twice weekly** (from weekly), coinciding with surveillance visits. Diagnostic thresholds reviewed with her. Written preeclampsia symptom card reissued and rehearsed: severe or persistent headache, visual changes, right upper quadrant or epigastric pain, sudden facial or hand swelling, shortness of breath, or reduced urine output — each meaning present now, do not wait.
- **Aspirin continued** at 81 mg daily. Anaesthesia confirmed that low-dose aspirin does not preclude neuraxial anaesthesia, so it continues until delivery.
- **Antenatal corticosteroids — readiness rather than administration.** A single course of betamethasone (12 mg intramuscularly, two doses 24 hours apart) to be given **when delivery is anticipated within 7 days** — that is, at the next adverse Doppler or laboratory change, on any decision to admit, or when a delivery date is set. Rationale for not giving it speculatively today explained to her: benefit is maximal within 7 days and mistimed or repeated courses are not without cost. Magnesium sulphate for neuroprotection to be given if delivery occurs before 32 weeks, and for seizure prophylaxis if preeclampsia with severe features develops at any gestation.
- **Delivery planning — formalised today.** Target **34 to 36 weeks** by repeat cesarean at this centre, moving earlier on any escalation trigger. Consultations requested: **neonatology** (antenatal counselling regarding a growth-restricted preterm infant, expected NICU course, and her son's 2019 experience as a reference point), **obstetric anaesthesia** (class II obesity, likely urgent cesarean, aspirin, possible thrombocytopenia if preeclampsia develops), and blood bank type-and-screen on file. **Care formally transferred from the midwifery service to the MFM-physician service for delivery**, with the midwives continuing routine prenatal care in parallel — explained to her and communicated to the practice today. Level III NICU bed availability confirmed. Trial of labour after cesarean not pursued, with reasons documented and discussed.
- **Fetal movement.** Continue daily kick counts at a consistent time, expecting 10 movements within 2 hours. **Present immediately for any further reduction from her own baseline — do not wait for absence.** Her reporting today was affirmed as exactly right, which matters: the goal is to keep her reporting early rather than second-guessing herself.

- **Thromboembolic prophylaxis.** No antepartum anticoagulation indicated (no history, negative antiphospholipid antibodies). Peripartum: mechanical prophylaxis with sequential compression devices, early ambulation, and reassessment for postpartum pharmacologic prophylaxis after cesarean given obesity. Counselled on calf pain, unilateral swelling, and dyspnoea as presenting-now symptoms.
- **Anaemia optimisation before a probable cesarean.** Continue ferrous sulfate 325 mg every other day with 500 mg vitamin C, away from levothyroxine and calcium. Haemoglobin 10.6 with ferritin 18 — **intravenous iron ordered** to raise reserves before delivery, since a haemorrhage in an anaemic patient is a worse haemorrhage. Repeat CBC and ferritin in 2 weeks.
- **Immunisation and infection. RSV maternal vaccine at 32+0 — eligible in under a week, and she was advised to receive it promptly**, with infant nirsevimab arranged instead if delivery precedes it; noted in the neonatology referral. Influenza vaccination in the autumn or at delivery, whichever comes first. Tdap and COVID-19 already complete. **GBS unknown at a preterm delivery — intrapartum prophylaxis per preterm protocol, flagged prominently in the delivery plan**, with a culture obtained if preterm delivery becomes imminent. Toxoplasma non-immune — food-handling and cat-litter precautions reinforced.
- **Behavioural health.** Perinatal behavioural health referral placed and accepted for a GAD-7 of 12 that has risen from 8, with content entirely specific to recurrence, prematurity, and another NICU stay. Her anxiety was explicitly validated as a proportionate response to a real history, not pathologised. Peer support through the NICU family programme offered. EPDS to be repeated postpartum, with a low threshold for intervention given her prior NICU course.
- **Postpartum planning made now, not at discharge.** Postpartum hypertension is highly likely given her 2019 day-6 readmission at 172/108: home cuff already in place, readings twice daily for 2 weeks, **blood pressure check at 5–7 days postpartum** rather than relying on the 6-week visit, and labetalol continued (lactation-compatible). Preeclampsia can present or worsen postpartum, and the symptom card applies for 6 weeks after delivery. Lactation consultation and early pumping support arranged in advance of a probable NICU admission. Contraception discussed — she is considering permanent contraception at cesarean and will confirm before delivery. **Long-term counselling delivered: two hypertensive pregnancies with placental disease confer substantially elevated lifetime cardiovascular risk**, so primary care follow-up for blood pressure, lipids, and glucose was arranged with Dr. Sathe.
- **Coordination and education.** All Doppler and growth trends shown to her and her husband on screen, with a printed trend sheet for her records; teach-back confirmed. Coordination note sent today to the midwifery practice, to Dr. Sathe, and to neonatology and anaesthesia, summarising the growth and Doppler trajectory, the laboratory drift from baseline, the medication change, the escalated surveillance schedule, and the delivery target. Written materials provided: escalation triggers, preeclampsia symptom card, kick-count instructions, and the delivery plan. **Instructed to present to labour and delivery immediately for** any blood pressure at or above 160/110, severe or persistent headache, visual changes, right upper quadrant or epigastric pain, sudden facial or hand swelling, shortness of breath, decreased fetal movement, vaginal bleeding, leakage of fluid, or regular painful contractions. Direct MFM and after-hours numbers given, and she was told plainly that presenting unnecessarily is always preferable to waiting.

F FOLLOW-UP

14 REASSESSMENT PLAN

Follow-up

Return in **3–4 days (08/24/2026)** for NST, umbilical artery, middle cerebral artery, and ductus venosus Dopplers with BPP, blood pressure and home-log review, and repeat preeclampsia laboratories; then twice weekly (Mondays and Thursdays) with the same panel. Basic metabolic panel in 1 week following the nifedipine start. **Repeat growth ultrasound 09/03/2026** (2-week interval). Intravenous iron within 2 weeks, with CBC and ferritin thereafter. RSV vaccination at 32+0. Neonatology and anaesthesia consultations before 33 weeks. Betamethasone when delivery is anticipated within 7 days. Delivery targeted at 34–36 weeks by repeat cesarean at this centre, moving earlier for absent or reversed end-diastolic flow, a reversed ductus venosus a-wave, oligohydramnios with a pocket below 2 cm, a non-reassuring NST or BPP, or

preeclampsia with severe features. Postpartum blood pressure check at 5–7 days with the comprehensive visit at 6 weeks. **Immediate presentation to labour and delivery — not a clinic call — for any blood pressure at or above 160/110, severe-feature symptom, decreased fetal movement, bleeding, leakage of fluid, or regular painful contractions.**

TB TIME DOCUMENTATION & BILLING

TOTAL TIME SPENT

78 minutes

COUNSELING / EDUCATION TIME

26 minutes — Doppler and growth trend review, delivery timing, escalation triggers, corticosteroid rationale

GENETIC COUNSELING COORDINATION TIME

4 minutes — offered in the context of early growth restriction; declined after discussion

ULTRASOUND / TEST REVIEW TIME

18 minutes — serial biometry comparison, multivessel Doppler interpretation, laboratory trend against baseline

CARE COORDINATION TIME

11 minutes — neonatology, anaesthesia, midwifery transfer, primary care, infusion

RECORDS REVIEW TIME

12 minutes — 2019 delivery and operative records, prior ultrasounds re-measured, home BP and kick-count logs

PROCEDURE TIME

55 minutes — detailed obstetric ultrasound with multivessel Dopplers, BPP, and NST

E/M LEVEL

99215 — established patient, high-complexity medical decision making (medication escalation, surveillance intensification, delivery planning)

ULTRASOUND CODE(S)

76816 — follow-up obstetric ultrasound; 76821 — middle cerebral artery Doppler; 76820 — umbilical artery Doppler velocimetry

FETAL SURVEILLANCE CODE(S)

59025 — fetal nonstress test; 76818 — fetal biophysical profile with NST

PROCEDURE CODE(S)

None invasive — no amniocentesis, no CVS, no Rh immune globulin (patient O positive)

GENETIC COUNSELING / CARE COORDINATION CODE(S)

Not separately billed — counselling declined; coordination bundled in time-based E/M

BASIS FOR BILLING

Time-based and high-complexity MDM with separately reportable ultrasound interpretation and fetal surveillance on the same date

PRIMARY DIAGNOSIS

O36.5931 — Maternal care for known or suspected poor fetal growth, third trimester, single fetus

SECONDARY DIAGNOSES

O10.013 Pre-existing essential hypertension complicating pregnancy, third trimester; O11.3 Pre-existing hypertension with pre-eclampsia, third trimester (suspected, prodromal); O36.8130 Decreased fetal movements, third trimester; O99.213 Obesity complicating pregnancy, third trimester; Z3A.31 31 weeks gestation; O34.211 Maternal care for scar from previous cesarean delivery; O99.013 Anemia complicating pregnancy, third trimester; O99.343 Other mental disorders complicating pregnancy; Z87.51 Personal history of pre-term pregnancy; O41.03X0 Oligohydramnios, third trimester (trending)

SO

PROVIDER SIGN-OFF

PROVIDER NAME	CREDENTIALS	SPECIALTY	DATE	TIME
Idris B. Kamau, MD	MD — Maternal-Fetal Medicine	Maternal-Fetal Medicine	08/20/2026	13:52

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