Version 4

2020

The Team

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The Unit

Obstetrics	**Overview** NB: timings are **UNIT opening times**, see next page for SHIFT times
Ward 7	Antenatal – mostly IOL, awaiting C/S, medical issues Postnatal – awaiting discharge +/- baby is inpatient
Delivery Suite (LW)	Active labourers High-risk patients (eg. medically complicated)
Greenwich Birth Centre/ IOL Suite	Low risk labourers Patients for induction of labour
Triage	Open 24 hours Gateway to D/S MW sees active labourers and patients at term (>37 weeks) SHO reviews for medical complaints, abdo pain, if need speculum <37/40
Fetal Assessment Unit (FAU) *Also known as Day Assessment Unit (DAU)*	Open M-F 0800-2000, S-S 1000-1600 Any patients still waiting when FAU closes go to Triage **Planned** – BP reviews, scan reviews **Acute** – headaches, SOB/CP, etc. etc.
Theatre 6	Elective C-sections Theatre (AM)
Theatre 7	Emergency Obstetrics Theatre Directly across the hallway from LW - Obs Anaesthetist #6611 - Theatre coordinator #6605
Gynae	
Early Pregnancy Unit (EPU)	Open M-F from 0830, scans done from 0900-1200 - Lead Consultant – Miss Fuller - ANP Lead (Cross-Site) – Belinda ('B') Champion - CNS – Judith Clarke, Simbi Makumbe (also scans)
Day Care Unit (DCU)/ Ward 3	Day surgery admissions/ward Where patients attend for day case CEPOD (eg. SMM) Require discharge summaries but should be done by operating surgeon
Surgical Assessment Unit (SAU) *Ground floor – in ambulatory care unit (ACU)*	Variable opening times – from 0800 to 1800/2000 (depending on # of nurses that day). Stop accepting referrals 2hrs before closing. Patients attend via A&E, UCC or appointment. **6 USS slots daily (10.15, 11.00, 11.15, 11.30, 15.00, 15.15)** – shared with Surgical team; can be used for urgent TA/TV USS (downstairs US department, <u>not</u> women's scanning)
Theatre 4	CEPOD (Emergency Theatre) List Shared between Gen Surg, Gynae, Urology Gynae has 2 slots/day – usually for SMMs/bartholin cysts/ectopic pregnancies - CEPOD coordinator 07769246150 - CEPOD anaesthetist #6963
Minimal Access Unit (MAU) *In gynae outpatient department*	Outpatient rapid access clinic for hysteroscopy, pipelle biopsies

Imaging / How to get Scans

Inpatient	Women's Scanning (Room 6) ext.4797	X2 protected inpatient scan slots/day Otherwise can try to squeeze in between outpatient scans
Outpatient	Ultrasound (downstairs)	Same/next-day slots via SAU (only via normal sonography, not Women's Scanning)

	Women's Scanning	Same/next-day slots via FAU (Obstetrics) – eg. growth scans
	Vascular USS	Same/next-day slots via FAU for ?DVT

Shift	Logistics	Responsibilities	'Typical Day'	Tips
Labour Ward **Bleep 6361**	0800-2030 Handover to handover	Help LW Regs (WR, prescribing, jobs) Assist in Emergency Theatres Help GOC/FAU if not busy	**Day**: LW WR, complete jobs, Triage **5pm**: GOC hands over to you **Evening**: acute (FAU, A&E, Triage)	
Gynae On-Call **Bleep 6362**	0800-1700 SHO provides continuity as different senior daily	**Inpatients**: daily WR, jobs, discharge **Acute**: clerk (in A&E/SAU) admit/discharge	**AM**: WR (M-F Cons/Reg-led, S-S SHO) **PM**: complete jobs, clerk (A&E/SAU) **5pm**: hand over to LW SHO	Keep Gynae Bag stocked Update the gynae handover list Gonorrhea/chlamydia swabs need to be endocervical
Twilight Gynae On-Call **Bleep 6362**	1200-2000 Will do evening handover to the night team	**Inpatients**: daily WR, jobs, discharge **Acute**: clerk (in A&E/SAU) admit/discharge	**12 PM**: update from 8-5 Gynae on-call SHO. Divide and complete jobs, clerk (A&E/SAU) **8pm**: hand over to night team	as with GOC
Ward 7	M-F 0800-1300 S-S covered by LW SHO	Post-natal WR, TTOs and obstetric discharge summaries	**AM**: PNWR (PM: usually half-day clinic)	This handbook (and trust guidelines) is your friend! (BP/DM/3rd degree tears)
EPU **Bleep 6794**	M-F 0730-1300	1. CEPOD – check patients (in DCU) ready for theatre (eg. bloods, consented, miso/TEDS/anti-D) 2. EPU – will bleep you to review/prescribe/ consent patients 3. FAU – cross-cover	**AM**: EPU & FAU will bleep/call you to review patients (**PM**: Usually paired with FAU afternoon)	Misoprostol 200 micrograms for nullips Anti-D 1500 units if Rh neg TEDS All products of conception require a histology form and a yellow cremation/disposal consent form
FAU	0800-1700 Leave your mobile number in the AM – MWs will call	Review patients Discuss with senior	Typical cases: - Abdo pain - Headaches - FFN for ?TPTL - ActimPROM for ?SROM - ECG/scan reviews	It can get very busy – ask for help (from other SHOs/SpRs)! There will always be more patients so remember to have lunch.
Elective C-Sections	0800-1300	Meet SpR on W7/LW at 0800 Check pre-op bloods (Hb, plts, x2 G&S, covid-19 swab) + do VTE Assist in theatre	Morning list, so afternoon shift is different	Remember to eat breakfast
Clinic (ANC/GOPD)	*check start times – usually: 0845 AM start 1330 PM start	Sit in with Consultant/Reg		

Nights	2000-0830 Handover to handover	Cover inpatients (Gynae, W7, LW) and assess acute patients (A&E, Triage)	Carry both 361/362 bleeps (or ask Switch to link them)	Keep Gynae Bag stocked Make sure bloods/scans ordered for the AM

The Rota and Shifts

Helpful Tips For Life as an O&G SHO

Gynae Bag Contents

- Speculums (small/medium/medium long) and lubricant jelly
- Swabs (blue – HVS/wound, orange – NAAT chlamydia/gonorrhoea)
- Sterile gauze
- Forceps – sponge forceps (to remove products), Spencer-Wells (to remove coils)
- Silver nitrate sticks for cauterising bleeding cervixes
- **TORCH**
- **It's the GOC's responsibility to stock this at the beginning/end of each shif**

Where to find things (to stock up the Gynae Bag!)

- Trolley in GOPD that gets stocked particularly for nights/weekends. Code 2244
- A&E Storeroom (next to Esc 2 trolley, code 1972)
  - Tall grey cupboard has **lubricant, orange swabs** and **white pots** (eg. for products)
  - Drawers to the R of cupboard have **speculums** (small + medium), **sponge forceps**
  - Shelves by the door have **sterile gloves** and **blue swabs** (bottom R shelf)
- Gynae Clinics / Triage / LW storeroom

Good-to-know Basics

Gynae

- bHCG – should double every 48 hours in early pregnancy (to check if pregnancy is viable), this can be used to monitor stable ectopic patients or patients with 'pregnancy of unknown location' as outpatients.
  - TVUSS – should be able to see GS if HCG >1000
- Progesterone – 'pregnancy-supporting hormone' – how quickly pregnancy is growing, only useful in the first presentation
  - Levels below 20nmol/L are associated with non-viable pregnancies and levels above 60nmol/L are associated with normal IUP

Obs

- You're always helpful in an emergency! ABC. Get IV access/send bloods.
- C-Sections
  - **Cat 1 – life-saving emergency, deliver in 30 minutes**
    - **Goes out as Fast-Bleep to Obs, Anaesthetics, Paeds, Theatres**
    - **All hands on deck, RUN to theatres**
  - **Cat 2 (emergency, deliver in 60 minutes)**
  - **Cat 3 (EMCS but an expedited elective – to be done when LW activity low)**
  - **Cat 4 (Elective)**

Who to ask for help

- Check the rota if there's also a reg covering the area (eg. CEPOD, FAU)
- Ask on-call SpR (Senior #419, Junior #666)

How to Book Procedures on iCare

- **TVUS**
  - Request Add US Pelvis US Pelvis TA & TV (QE)

    - Note: if seeing a patient in A&E and you want an urgent/ inpatient TVUS book it as **'inpatient'** NOT 'ED patient' (to show on IP sonographer's list)
    - If booking a SAU scan, request as outpatient and write down the patient's details, date and time in SAU diary
    - IP Gynae/Obs scans are done by room 6 on 4871. **You often need to personally speak to them/transfer the patients to ensure it gets done!**
- **EMCS**
    - Request Add QE Surgery Orders Obstetric Obs – Emergency Caesarean (must be booked as 'emergency')
    - Call Theatre coordinator/Anaesthetist
- **ERPC**
    - Request Add QE Surgery Orders Gynaecology Gynae – Evacuation of Retained Products of Conception (must be booked as 'emergency')
    - If emergency call CEPOD coordinator 6609 + CEPOD Anaesthetist 6963
    - *In COVID times patients are required to self-isolate. Please liaise with EPU nurses for most up-to-date protocol. Please write date TCI in the free text of the request*
    - Add patient to Gynae Handover list – relevant info: age, parity (including modes of delivery), VTE risk factors, previous uterine/abdominal surgery, relevant PMHx.

How to Find ECHO or 24hr Tape Results:

- Access PRISM; username docto password docto4

Guidelines

- Always check intranet for latest Guidelines
    - Internet Explorer – Home button Guidelines Women & Sexual Health Guidelines (on R menu) Maternity Guidelines
    - Obstetrics – PIH/PET, OC, Diabetes, Epilepsy, etc.
- Antibiotic Guidelines
    - Microguide app on your phone
    - Detailed Gynae Abx PDF under Guidelines Gynaecology
- EPU – Ectopic, Miscarriage

Night SHO Tasks in the Morning

- **ERPC**
    - For patients due to come in that day for ERPC, complete the VTE assessment between 7-8am (request add compression [enter] left & right leg) note: can only do once patient admitted
    - Night SpR (or SHO if unavailable) to attend CEPOD huddle at 0730 to confirm cases for the day & confirm SpR availability.
- Update Gynae Handover list with any updates/new admissions overnight

Early Pregnancy Unit

The early pregnancy unit sees patients up to 16 weeks of gestation. They get referrals from A&E, GPs and private scanning clinics. The EPU nurses will triage the patients and organise scans/HCG/Prog as appropriate. Patients are given appointments to attend from 0845 to 1200.

From 1st October you can refer patients to EPAU by requests add referral EPAU
Once completed this will generate an email to EPU team & patient will be contacted.

- Arrive at 8 and carry the 794 bleep.
- Obtain the details of the patients for ERPC (evacuation of retained products of conception)/SMM (surgical management of miscarriage) from the gynae list.
- The patients will be on Ward 3.
- You will need to see the patient to confirm they wish to go ahead with the procedure and that they haven't had a large PV bleed (this could indicate the patient has passed the products in which case she would need a repeat USS).
- Check their bloods (Hb, 2x valid group and saves +/- cross-matched blood if required), do the VTE assessment on iCare, prescribe TEDS +/- misoprostol 200 micrograms PV (if nulliparous).
- Check the two signed consent forms
    - Lilac pre-written procedure consent form
    - Yellow disposal of sensitive tissue form.
- The surgeon should also see the patient prior to the procedure.

Then wait to get bleeped. You will be bleeped from both FAU and EPU. If you're lucky, there will be someone covering FAU otherwise you will need to cover both. They will mainly bleep about ectopic pregnancies, retained products and missed miscarriages - either to discuss management options or to consent for SMM.

If you are asked to consent for SMM, you will also need to do the following:

1. Fill out the SMM proforma *(following steps all listed on proforma)*
2. *Liaise with EPU nurses for next appropriate slot in context of COVID test & result (usually takes 24-48hrs for results)*
3. Book patient onto CEPOD list on iCare
    a. Requests add QE Surgery orders Gynae Evacuation of retained products of conception (must be emergency procedure) write date TCI in the free-text box
4. **SMM consent** (*you do not need to do the procedure to be able to consent a patient, you just need to have training about it which will be provided at induction).*
    a. If you are unable to consent the patient, make a note of it on the gynae handover list and the surgeon will consent her on the day of surgery
5. **Yellow consent** form for examination+/-disposal of products (patient can opt to have the products returned to them for private arrangements if she wishes)
6. 2 x G&S, FBC, hemoglobinopathy screen (if indicated) within 72 hours of procedure – patient can be sent to phlebotomy for this
7. CHECK PATIENT'S RESUS STATUS if rhesus negative prescribe 'Anti-D IM STAT 1500 units' on the blood products prescription form
8. Add patient to the gynae handover list under CEPOD with the intended date TCI
9. Give the patient the DCU letter and ERPC/SMM leaflet which tells them what time to come in and where. Inform them they need to be NBM from 2am and clear fluids till 6am.

10. Advise that the procedure is done on the CEPOD list and is shared with the surgeons so they may have to wait if there is an emergency first thing in the morning.

Fetal Assessment Unit / Day Assessment Unit

Shift starts at 8am and is usually combined with the EPU one so you will hold the 794 bleep. If solely covering FAU, pop by and leave your number so the midwives can call you. Patients can be referred here by their community midwives, GPs or be booked for follow up. It is open till 8pm M-F and they see pregnant women past 16 weeks gestation but those in labour/in pain/with PVB.

The midwives are very experienced here so ask them for help if you are unsure how to manage a patient! You will usually be referred hypertension, headache, obstetric cholestasis, UTIs, thrush, leg swelling and reduced fetal movement.

Ward 7

Ward 7 is the postnatal ward but bays 5 and 6 are usually reserved for the antenatal women. Start on the ward at 8am and find the Doctors Obstetrics Review folder where the midwives will have written all the tasks for the day. You will need to review the patients day 1/2 post C-section, third degree tears, hypertensives and any other medical complaints as they arise. You will also be asked to do the discharge summary & TTOs for the patient. Hand over any patients who need reviews in the afternoon to the LW SHO. If needed you can escalate any concerns to the LW team or registrar covering antenatal patients.

How to update discharge summary:

Maternity whiteboard QE Ward 7 Postnatal highlight patient Obs Disc (at top of ward list page, NOT patient's page)

How to add TTOs

Request add in 'type' drop down options select 'outpatient prescription' add drugs as required <u>including the indication/duration.</u>

C-Sections

Arrive changed on W7 by 8 am

- Check bloods (Hb, platelets and valid G&S)
- Find the registrar/consultant who's doing the elective C-sections on LW or W7
- The registrar will consent the patients in the morning
- To print the elective C-section list, icare explorer theatre list report select correct date theatre 6

It's usually a half-day shift so in the afternoon you will be doing something else.

Labour ward on calls

This is the 0800-2030 shift and you carry the 361 bleep. Start in handover room on delivery suite and change into scrubs. The night team will handover all the patients on delivery suite. On M-F you will start by joining the consultant led ward round, unless there are patients waiting to be seen in Triage. There is one

senior and one junior registrar covering labour ward so they will be able to guide you. On S-S there is only you covering obstetrics so it's usually wise to start seeing the postnatal patients on W7.

Throughout the day you cover triage and assist in any EMCS. In the afternoon/evening you also cover W7 and FAU.

At 5 pm you will get handover from GOC SHO and take their bleep . At the end of the shift, update the gynae list and print 3x copies for the handover at 8pm.

Over the weekend you will also cover ward 7 (so usually start there) and FAU.

Gynaecology on call

The GOC week is divided into M-T and F-S 8-5pm shifts carrying the 362 bleep. As senior cover changes daily, the SHO provides continuity. You start on delivery suite and get a handover from the night team. There is usually a consultant led ward round (M-F) but some days you may need to see the patients yourself and discuss with LW consultant or registrar. When there is a consultant, they will either find/bleep you on LW. See the inpatients and do relevant jobs.

The senior registrar takes referrals from A&E and will let you know who they have accepted for you to see. The types of referrals you get may include but are not limited to: Gynae oncology, PID, miscarriages, ectopic pregnancy, hyperemesis gravidarum and pelvic pain. All admissions need a registrar review on the day of admission. If they are busy on labour ward and cannot review a patient, escalate.

At the end of your shift, update the list and print out a copy to give to the LW SHO.

The handover list can be found on: Computer shared drive handover Doctors Handover Gynae Folder relevant year & month

Scans: If you see a patient in A&E & wish to organise same-day or inpatient TVUS, request this as 'inpatient' not 'ED patient' (otherwise request doesn't appear on sonographer's list).

Clinic Half Days

This will either be Gynaecology outpatients, Antenatal clinic or USS scanning (mainly for the O&G trainees). They start at 8.45 – 9 am for the morning clinics and 13:30 for the afternoon ones. Gynaecology outpatients is by EPU and Antenatal clinic is opposite FAU. Find out which consultant is in clinic and ask to sit in.

Night shift

Start at 8pm in the handover room on delivery suite. There is only one SHO to cover both Obs (LW, Triage, W7) and Gynae (A&E, inpatients) but it is usually manageable. Discuss all admissions with the registrars and at the end of the shift, update and print out 3 copies of Gynaecology list to give to the day team.

Antenatal

Pregnancy Induced Hypertension (PIH) & Pre-Eclampsia (PET)

New hypertension presenting > 20 weeks:
- Without significant proteinuria = PIH
- With significant proteinuria = PET

Significant proteinuria is if there is > 300 mg protein in a 24-hour urine collection or **> 30 mg/mmol** in a spot urinary protein : creatinine (PCR) sample.

HTN is defined as:
- Mild: 140-149/90-99
- Moderate: 150-159/100-109
- Severe: >160/110

Risk factors for pre-eclampsia:

Moderate	***High***
• First pregnancy • Age ≥ 40 years • Pregnancy interval > 10 years • BMI ≥ 35 kg/m2 at booking • Family history of pre-eclampsia • Multiple pregnancy	• Hypertensive disease during previous pregnancy • Chronic kidney disease • Autoimmune disease such as SLE or antiphospholipid syndrome • T1DM or T2DM • Chronic hypertension

Key Points in History:	O/E:
• Severe headache, esp. frontal • Visual disturbance, such as blurring or flashing before the eyes • RUQ/epigastric pain • Nausea +/- vomiting • Peripheral or periorbital oedema • Reduced fetal movements	• Signs of oedema • Abdominal palpation • Check knee reflexes • Clonus: >3 associated with cerebral irritation

Investigations:
- BP profile (needs admission if severe HTN 4 hourly BP checks)
- Urine dip & MSU: if > 1+ protein PCR
- CTG
- Bloods: FBC, U&Es, LFTs, clotting
- Ultrasound for fetal growth and amniotic fluid volume assessment and umbilical artery Doppler velocimetry starting between 28 and 30 weeks

Management: Any medication should be initiated by a registrar/above
- Labetalol (check for asthma)
- If not controlled, can add nifedipine or methyldopa [or amlodipine] (d/w senior)
- ANC review
- For women with risk factors for pre-eclampsia, consider 150mg aspirin OD until 36/40.

Postnatal:
- Antihypertensives labetalol, atenolol, nifedipine, amlodipine, enalapril
  - They can all be used when breastfeeding

- Follow-up in Hypertension clinic – they will be discharged with a home BP monitor (ask the midwife to arrange it) and email the HTN team so they can be followed-up (lg.hypertensionclinic@nhs.net and copy alex.ridout@nhs.net)

Obstetric Cholestasis (OC)

This is a pregnancy specific condition characterised by pruritus (particularly on palms/soles) without rash and abnormal LFTs (including bile acids) but resolves in the postnatal period. Itching occurs in approximately 1/5th pregnancies but OC only affects 0.7% of pregnancies. This is a *diagnosis of exclusion & only confirmed upon normal LFTs postpartum* .

History:
- Classically generalised pruritus, worst in soles of feet and palms of hands, without rash and worse at night
- Pale stool & dark urine
- Jaundice (rare)
- Pre-eclampsia symptoms
- Fetal movements
- Any recent changes to soap, detergents or creams
- Recent foreign travel
- Viral illness
- History/family history of liver disease and gallstones
- Drug and alcohol

Examination:
- Inspect skin – trauma from itching but no rash.

Bloods:
- Platelets < 100
- ALT > 32
- GGT > 32
- **Bile acids > 14**
- ALP – increase is usually placental in origin

Consider the following if abnormal LFTs if appropriate:
- **CTG** if reduced fetal movements +/- USS if concerns over fetal wellbeing
- **Abdominal Ultrasound**
- **Hepatitis screen**
- Amylase
- CMV screen
- EBV serology
- Hepatic auto-immune antibodies (anti smooth muscle and anti mitochondrial)

Associated complications:
- Spontaneous pre-term delivery
- Intrapartum fetal distress
- Maternal morbidity related to intense pruritus and sleep deprivation
- ?stillbirth – potentially slightly higher

Management:
- Weekly bloods in FAU
- Twice weekly CTG
- Chlorphenamine 4mg PRN
- Aqueous cream with 1% menthol
- Vitamin K 10mg PO OD water soluble

- Ursodeoxycholic acid 250mg PO TDS (can be increased to 1g/day total)
- ANC appointment for IOL discussion/delivery at 37-38 weeks

Postnatal management:
- GP or community midwife to check LFTs 10 days postnatally and consider referral to hepatologist if failure to return to normal

Gestational Diabetes Mellitus (GDM)

GDM is defined as any degree of glucose intolerance with onset in pregnancy. It affects about 4% of pregnancies. It may or may not resolve after pregnancy.

Risk factors for GDM:
- BMI > 30
- Previous macrosomic baby weighing > 4.5kg
- Previous GDM
- Family history of DM
- Ethnicity: South Asian, Black Caribbean & Middle Eastern

Screening offered to those with risk factors: 75g oral glucose tolerance test at 24-28 weeks gestation.

OGTT is not performed during peak COVID times; instead patients get a random blood sugar & HbA1c

GDM diagnosed if one or more of the threshold value is exceed:
- Fasting glucose ≥ 5.6 mmol/l
- 2-hour post OGTT ≥ 7.8 mmol/l

Management:
- Lifestyle advice including dietary modification
- Oral hypogylcemic agents – metformin
- Insulin
- Four weekly scans to assess fetal growth (increased to two weekly if macrosomia or small for gestational age)
- Referral to Diabetes Specialist Midwife
- ANC MDT (includes Diabetes Physician & Obstetric Consultant)

Postnatal:
- Stop metformin and insulin
- Advise on healthy lifestyle and diet due to increased risk of developing GDM in future pregnancies and T2DM in later life
- In the discharge summary, ask the GP to check the HbA1c in 3 months postnatally

Antepartum haemorrhage (APH)

Antepartum haemorrhage is defined as bleeding from the genital tract after 24 weeks gestation and before birth.

Causes

• Cervical ectropion • Cervical polyp • STI	• Placenta praevia (low lying placenta) • Placenta abruption • Uterine rupture

History

- Amount of bleeding – spotting, on wiping, fresh red bleed, soaking through pad
- Pain or painless
- Recent sexual intercourse
- Fetal movements
- History of SROM or PV discharge
- **Placental site** – look at most recent scan
- **Rhesus status** – prescribe anti-D immunoglobulin 1500 units IM if rhesus negative

Examination:

- **Note:** vaginal examination should NOT be performed until placenta location determined
- Abdominal examination – presence of contractions, woody hard uterus, scar tenderness
- Speculum examination – look for source of bleeding
- PR examination if suspicion of bleeding from GI tract

Investigations:

- Maternal observation – look for any signs of shock
- Urine dip
- HVS or NAAT swabs if any signs of infection
- Bloods if significant bleed – FBC, G&S
- CTG

Management:

- If no active bleeding and patient is stable, discharge home and safety net
- If active bleeding and no signs of shock, admit for observation
- If active bleeding and signs of shock, call for help +/- consider if immediate delivery is necessary

Anti-D Prophylaxis in Pregnancy – must be given within 72hrs of sensitising event

- Routinely for mothers around 28/40
- Abdominal injury
- Antepartum haemorrhage
- Amniocentesis/Chorionic villous sampling
- ECV (external cephalic version)

Abdominal Pain in Pregnancy

Abdominal pain is pregnancy is very common.

History:
- Full obstetric history
- SOCRATES
- ? contractions. If yes, is there any pain present between contractions
- ? previous C-section. If yes, is there any scar tenderness?
- PV bleeding or discharge

Investigations:
- Rule out UTI / Thrush
    - UTI
        - Urine dipstick – if nitrite/leucocyte positive, send MSU
        - Low threshold to treat for UTI if symptomatic & leucocytes in the urine
        - If MSU positive > x2 during pregnancy, consider prophylactic antibiotics after discussing with senior
    - Thrush
        - Speculum – thick/copious/clumpy vaginal discharge. Usually white but can be yellow/green in severe cases

Examination:
- Routine observations
- Routine abdominal examination
- Speculum examination to assess the cervix (open/closed), any blood, any liquor or any abnormal discharge visible
- If 24 – 34 weeks pregnant, consider fetal fibronectin test
- Consider bloods: FBC, U&Es, CRP, LFTs, +/- amylase
- Consider USS

Differential diagnosis:

Obstetric causes	Non-obstetric causes
Labour	MSK (common in first pregnancy)
Braxton Hicks contractions	SPD (common towards end of pregnancy)
Placental abruption	UTI
Uterine rupture	Pyelonepritis
Chorioamnionitis	Renal colic or renal stones
Pre-eclampsia/HELLP	Gastritis
Fetal movements	Peptic ulcer disease
Symphysis Pubis Dysfunction (SPD)	Constipation
Ligament pain	Bowel obstruction
Fibroid degeneration	Inflammatory Bowel Disease
Acute fatty liver	Gallstones
Ectopic pregnancy	Appendicitis
Miscarriage	Pancreatitis
	Ovarian accident (rupture or torsion)
	Trauma

Fetal Fibronectin

Fetal fibronectin (fFN) is a protein that adheres the amniotic sac to the uterus, like 'glue'. When released it shows biochemical changes towards labour, therefore used to assess for **likelihood of threatened pre-term labour (TPTL).**

When to use:
- Consider a swab in any patient 24-34 weeks pregnant complaining of abdominal pain/contractions.
- High risk asymptomatic patients – short cervix, previous mid trimester miscarriage

How to take:
- CHECK – no heavy PVB and no sexual intercourse in last 24 hours
- Speculum **(NO GEL – can use warm water)**
- Swab in posterior fornix for 10-15 seconds
- Ask MW how to use machine (in triage or FAU) – the result will come back in 10 minutes

Interpretation:
Any result >50 is positive.
QUIPP app – to give predicted risk of pre-term labour
- Download from App store
- Input risk factors (previous cervical surgery, previous PTL, etc)
- Calculate 1-week risk

If 1-week risk <5% □ discharge home.
If >5% □ admit.
If unsure/high FFN □ discuss with Regs

Contraindications:
- PV bleeding
- Recent sexual intercourse (in last 24-48 hours)
- SROM
- Recent VE/use of lubricant

Steroids:
- Always discuss with SpR first
- Enhance fetal lung maturity
- To be given in those expecting a pre-term delivery < 36/40
- If FFN positive and steroids have not been given previously
- Dexamethasone or Betamethasone 12mg IM 12 – 24 hours apart.

Preterm Prelabour Rupture of Membranes (PPROM)

PPROM complicates only 2% of pregnancies but is associated with 40% of preterm (< 37 weeks) deliveries and can result in significant neonatal morbidity and mortality. The three causes of neonatal death associated with PPROM are prematurity, sepsis & pulmonary hypoplasia.

History:

- Convincing story of SROM ('gush of water')
- Check for clinical signs of chorioamnionitis (fever, pain, foul odour of amniotic fluid, tachycardia)

Examination:

- Speculum (can use gel): presence of pool of fluid is conclusive of PPROM
- ActimProm swab in posterior fornix for 10-15 seconds
- NOTE: increased discharge is physiological in the 3rd trimester

Investigations:

- Bloods: FBC & CRP
- HVS
- CTG: assess for fetal tachycardia
- USS: consider to assess for amniotic fluid index

Management:

- Admit
- Maternal observations to look for signs of chorioamnionitis
- CTG
- Erythromycin 250mg QDS PO for 10 days
- Consider steroids if preterm & imminent delivery likely

Anaemia in Pregnancy

Haemodilution during pregnancy occurs due to a natural increase in plasma volume, resulting in a lower Hb. Anaemia is defined as:

- Hb < 110 g/L at booking
- Hb < 105 g/L in the second and third trimesters
- Hb < 100 g/L post partum

Most common symptoms include:

- Fatigue
- Dyspnoea
- Dizziness
- Palpitations

Investigations:

- MCV <77 fl indicates likely iron deficiency
- Normal MCV (77-96 fl) is typical of pregnancy
- Haematinics (vitamin B12, folate and ferritin) and iron studies (iron, transferrin, transferrin saturation) may be required

Management:

- Diet advice
- Start with ferrous sulphate 200mg on alternate days; if this does not improve Hb investigate haematinics.

- If rapid replenishment required (e.g. late 3rd trimester) or if not tolerating oral iron, consider IV iron infusion (Ferinject)
    - Given as inpatient or outpatient (on Ambulatory Care Unit)
    - Given as 2 doses one week apart (dose depends on weight and starting Hb)
    - Fill out Ferinject prescription (found on the intranet or FAU) and discuss with the pharmacist (if inpatient) or the ACU consultant (if outpatient)
- Correct vitamin B12 deficiency (1mg hydroxocobalamin IM three times a week for 2 weeks) or folate deficiency (folic acid 5mg OD) as necessary

Thalassemias

- Inherited blood disorders with reduced alpha or beta chains
- May be asymptomatic prior to pregnancy but become more severely anaemic during pregnancy
- MCV < 80 requires investigation with HbA2
- If HbA2 positive for thalassemia, the father of the child requires testing and genetic counselling should be offered
- If known thalassemia, specialist antenatal care, folic acid 5mg OD, regular US scans & regular Hb monitoring +/- transfusion is required

Sickle cell anaemia

- Genetic defect causing sickling of RBCs
- RBC destruction severe haemolytic anaemia and joint and bone pain
- Most common form: haemoglobin S
- If suspected, folic acid 5mg OD required and FBC checked at 20, 28 & 32 weeks
- Iron supplementation not required unless ferritin & serum iron levels are reduced
- Prophylactic antibiotics required during and after pregnancy
- Complications include: spontaneous abortion, stillbirth, sickle cell crisis, stroke, PE, frequent urinary tract infections

Chest Pain & Breathlessness

Pulmonary embolism is a leading cause of pregnancy related mortality in the developed world, accounting for 20% of maternal deaths in the USA.

Accurate clinical diagnosis is extremely difficult in pregnancy and if there is any suspicion of a PE, the following investigations should be booked:

1. FBC, U&Es (**no** D-dimer)
2. Exertional saturations
3. ABG
4. CXR & ECG
5. Admit and prescribe treatment dose enoxaparin until PE is definitely excluded
6. If concurrent symptoms of DVT Venous Leg Doppler first (if DVT confirmed + symptoms of PE – assume concurrent PE).
7. If Doppler negative/not required and CXR normal V/Q scan
8. If Doppler negative/not required and CXR abnormal CTPA

In order to organise a V/Q scan (only done at Lewisham):

1. Order on iCare
2. Call 236718 for Nuclear Medicine at Lewisham only on Tuesdays & Thursdays
3. Print order (print print requisition) and fax to 0208-3333-049 (write Well's score, asthma status, smoking status, delivery suite number and bleep numbers on this form)
4. Call 236718 to confirm receipt

If PE confirmed, treatment dose enoxaparin is required for the remainder of the pregnancy and for at least 6 weeks postnatally until at least 3 months of treatment has been given in total.

Booking or early pregnancy weight	Enoxaparin dose
<50kg	40mg BD or 60mg OD
50 – 69kg	60mg BD or 90mg OD
70-89kg	80mg BD or 120mg OD
90-109kg	100mg BD or 150mg OD
110-125kg	120mg BD or 180mg OD
>125kg	Discuss with haematologist

V/Q scan	CTPA

Slight increased risk of childhood cancer (1:280,000 vs. 1:1,000,000 for CTPA) Breastfeeding should be delayed for 12 hours following V/Q scan	Higher risk of breast cancer (risk increased by up to 13.6%) Can resume breastfeeding immediately

VTE

Pregnant women therefore need to be assessed at booking and at any admission during their pregnancy to ensure enoxaparin is given when needed.

For post Caesarean sections, 10 days of prophylactic enoxaparin needs to be put on the TTO.

Prophylactic LMWH (enoxaparin) dose is dependent on bodyweight at booking:

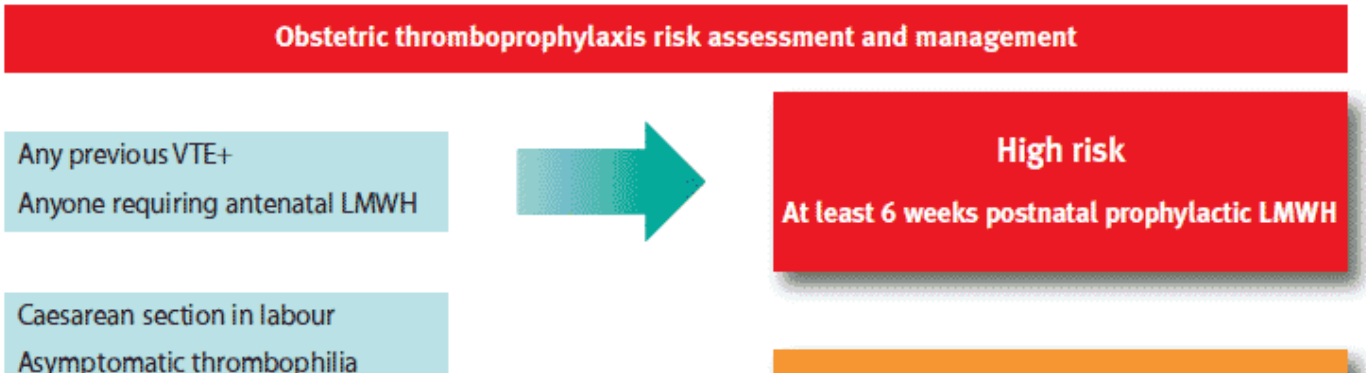
Weight	Enoxaparin prophylactic dose
<50kg	20mg
50-90kg	40mg
91-130kg	60mg
131-170kg	80mg
>170kg	0.6mg/kg/day

Treatment Doses for DVT/PE

<50kg	40mg BD / 60mg OD
50-69kg	60mg BD / 90mg OD
70-89kg	80mg BD / 120mg OD
90-109kg	100mg BD / 150mg OD
110-125kg	120mg BD / 180mg OD
>125kg	Discuss with haematology

Treatment with therapeutic doses of enoxaparin should be continued throughout the remainder of the pregnancy and for at least 6 weeks postnatally. A minimum of 3 months of treatment must be given in total.

Postnatal assessment and management (to be assessed on delivery suite)



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Medication in Pregnancy

Useful website regarding safety: http://www.medicinesinpregnancy.org/

Folic acid 400 micrograms in low risk, 5mg OD in high risk

Analgesia

Paracetamol (caution if bodyweight <50kg)

Co-codamol – avoid in breastfeeding mothers

Dihydrocodeine 30-60mg PO QDS

Oramorph

Pethidine 50 – 100mg IM (with Phenergan 25mg IM)

Steroids

Betamethasone or dexamethasone 12mg IM 2 doses either 12 or 24 hours apart

Vaginal Candidiasis

A once only vaginal pessary of Clotrimazole 500mg PV +/- clotrimazole 1% cream BD or TDS for 10-14 days. Oral anti-fungals contra-indicated in pregnancy.

Bacterial Vaginosis

Metronidazole 400mg BD for 10 days

Antibiotics for UTI – always 7 days

Always ensure that an MSU has been sent off

Cefalexin	500mg TDS	Safe in all trimesters
Nitrofuratoin	50mg QDS	Avoid in 3rd trimester
Trimethoprim	200mg BD	Avoid in 1st trimester

Group B Strep positive or prolonged rupture of membranes (>24hours)

Benzylpenicillin 3g IV loading dose then 1.2g 4-hourly in labour.

Clindamycin 900mg IV 8-hourly during labour is used in PENICILLIN allergic patients.

In Utero Transfer

Patients in threatened preterm labour may require transfer to another maternity & neonatal unit if any of the following criteria apply:

- <28/40 gestation
- Estimated fetal weight <1.5kg
- Our NNU is full

To find which units have capacity, contact the Emergency Bed Service (EBS) **020 7407 4999** with the patient's details and they will find the nearest appropriate unit.

Post-Natal

Post Partum Haemorrhage (PPH)

Defined as blood loss > 500mls post spontaneous vaginal delivery or > 1000mls post Caesarean section within 24 hours of delivery.

PPH is generally caused by the following (the **Four Ts**):

- **T**one (70%) – uterine atony (eg. prolonged labour, obesity, multiple pregnancy, fibroids, fetal macrosomia)
- **T**rauma (20%) – caused by CS, episiotomy, perineal tear
- **T**issue (9%) – retained placenta (whole or partial)
- **T**hrombin (1%) – coagulopathy

Basic measures for minor PPH (blood loss 500-1000mls, no clinical signs of shock):

- Close monitoring
- Intravenous access
- FBC and G&S

Full protocol for MAJOR PPH (blood loss >1000 ml and continuing to bleed OR clinical shock):

- Put out Major Obstetric Haemorrhage Protocol call – call 2222
    - Call goes out to obstetric team, midwife coordinator, anaesthetist, theatre coordinator, blood bank, porter
- ABC including IV access x2 (green or grey cannula) and bloods (FBC, U&Es, clotting & crossmatch > 3 units)
- IV crystalloids or blood products
- Uterine massage (rubbing the fundus of the uterus abdominally to try and encourage contraction) if uterine atony thought to be cause
- Monitor urine output (with Urometer)

Medication used in PPH due to uterine atony:

- Syntocinon 5 units by slow intravenous injection (may have repeat dose)
- Syntocinon infusion (40 units in 500ml Hartmann's solution at 125ml/hour)
- Ergometrine 0.5 mg by slow intravenous or intramuscular injection (contraindicated in women with hypertension)
- Hemabate 250micrograms IM repeated every 15mins up to a maximum of 8 doses (contraindicated in asthma)
- Misoprostol 1000 micrograms rectally.

Manual Removal Of Placenta

A retained placenta is defined as one which has not been delivered within one hour after birth for reasons including:

- Uterine atony
- Umbilical cord snap
- Placenta accreta, increta or percreta (rare)

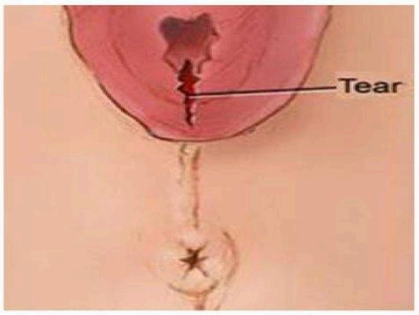
It is one of the causes of PPH.

MROP:

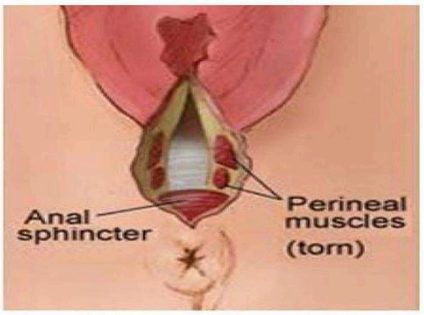
- In theatre under spinal/epidural
    - Requests □ add □ QE □ Surgery orders □ Obstetrics □ Manual removal of placenta (must be emergency procedure)
    - Call on-call anaesthetist (#611) and theatre coordinator (#605)
- Post procedure antibiotics required
- Post procedure uterotonic required

Perineal Tears

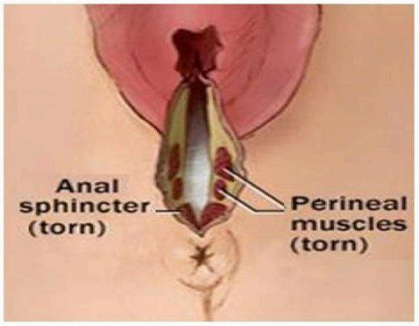
1st degree	Injury to perineal skin and or/vaginal mucosa
2nd degree	Injury to perineum involving perineal muscles but not the anal sphincter
Grade 3a	< 50% of external anal sphincter thickness torn
Grade 3b	> 50% of external anal sphincter thickness torn
Grade 3c	Both internal and external anal sphincters torn
4th degree	Injury to perineum involving the anal sphincter and anorectal mucosa



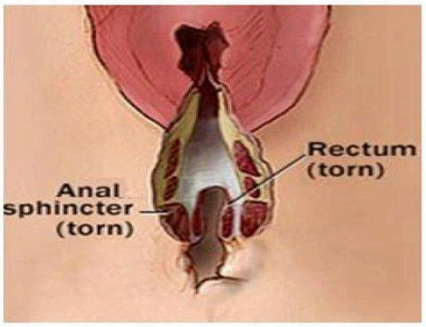
First Degree Perineal Tear



Second Degree Perineal Tear



Third Degree perineal tear



Fourth Degree Perineal Tear

Management of 3rd and 4th degree tears

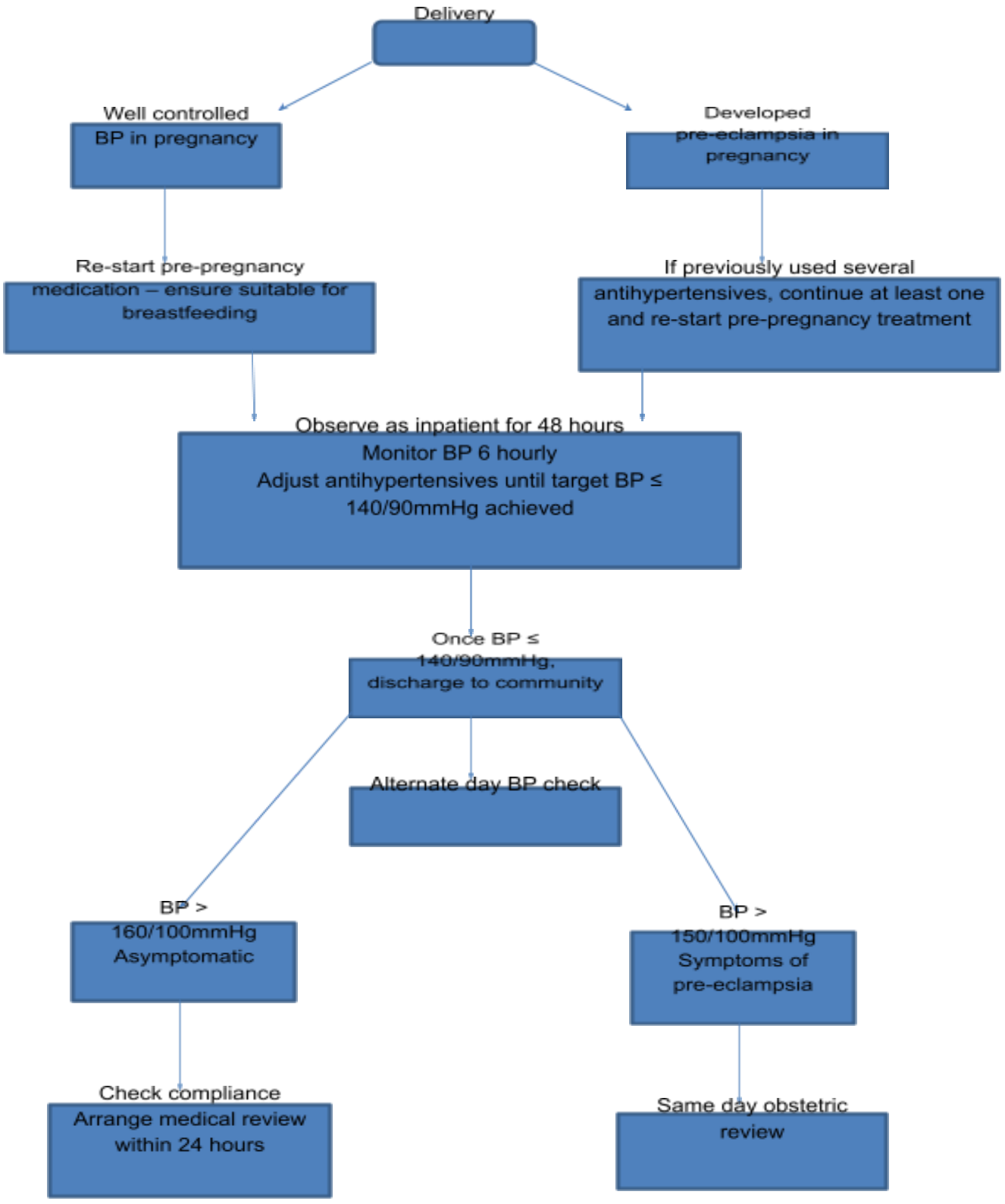
Acute Management:

- Repair under local or regional anaesthesia or under GA
- Stat IV cefuroxime 1.5g and metronidazole 500mg (gentamicin 3mg/kg and clindamycin 600mg in penicillin allergic)
- Subsequent 7 days of co-amoxiclav 625mg TDS (clindamycin 300mg QDS if penicillin allergic)
- Laxative required: Lactulose 15mls BD for 2 weeks
- Oral analgesia – paracetamol & ibuprofen. Avoid opioids

Before discharge:

- TTOs for abx/laxatives as above
- Wound care advice – sutures are dissolvable, wash with water only and after every toilet use, change pads regularly)
- **Physiotherapist referral** Requests add QE Referral to OP Physio, select women's health
- **Ms Nathan-Smith GOP (Urogynae) referral** (proforma available on ward 7)

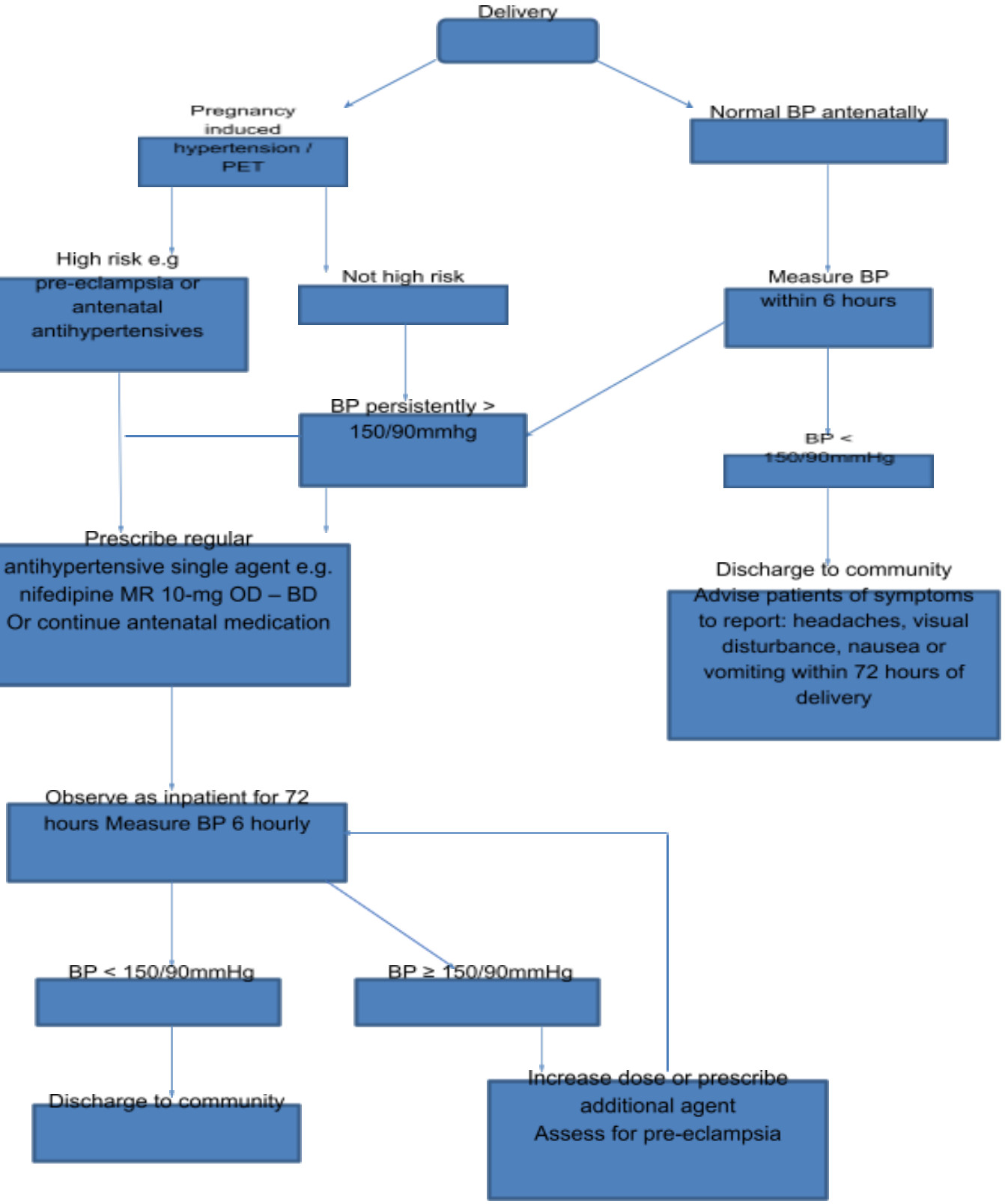
Pre-Existing Hypertension: Post Natal Management



Note: labetalol, atenolol, nifedipine, amlodipine, enalapril can all be used when breastfeeding

PIH/PET: Post Natal Management

- Measure BP daily for first 2 days after birth, then at least once every 3-5 days (via CMW/FAU) and convert to atenolol, nifedipine or amlodipine
- If methyldopa used, stop within 2 days of pregnancy
- GP to follow up
- Follow-up in Hypertension clinic – discharged with a home BP monitor (ask the midwife to arrange it) and email the HTN team (lg.hypertensionclinic@nhs.net, cc alex.ridout@nhs.net)



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Puerperal Sepsis

Remember the sepsis 6!

Defined as sepsis developing after birth until 6 weeks postnatally and accounts for 10 deaths per year in the UK.

Risk factors

- Obesity
- Impaired glucose tolerance/diabetes
- Impaired immunity/immunosuppressant medication
- Anaemia
- History of pelvic infection
- Cervical cerclage
- Prolonged SROM
- Vaginal trauma, caesarean section, wound hematoma
- Retained products of conception +/- manual removal of placenta
- Black or ethnic minority group

Causes

- Endometritis
- Mastitis
- UTI
- Pneumonia
- Skin & soft tissue infection (wound infection)
- Gastroenteritis
- Infection related to regional anesthesia (spinal abscess) – very rare

Symptoms

- Fevers & rigors
- D&V – may indicate exotoxin production i.e. early toxic shock
- Breast engorgement/redness/tenderness
- Rash
- Abdo/pelvic tenderness
- Wound infection – spreading cellulitis
- Heavy lochia and offensive vaginal discharge (smelly suggests anaerobes; serosanguinous suggests streptococcal)
- Productive cough
- Urinary symptoms

Management:

- Bloods (FBC, U&Es, CRP, LFTs, lactate), blood cultures & IV access
- IV fluids
- MSU
- HVS, throat swab, wound swab if indicated
- Stool culture if loose stools
- CXR
- US pelvis if ?collection ?hematoma
- Cefuroxime 1.5g IV TDS & Metronidazole 500mg IV TDS after blood cultures
- Avoid NSAIDs for analgesia because they impede polymorphs to fight Group A Strep

Post Caesarean Section Care

Day 1/2/3 post EMCS/ELCS

Check the following:

- Mobilising
- E&D
- PU (catheter usually stays in for 12 – 24 hours)
- BO/passing flatus
- Headaches & visual symptoms (pre-eclampsia symptoms)

On examination:

- Observations - ?pyrexial
- Uterus – contracted below umbilicus
- Wound and dressing
- Lochia – should be less than a period and decreasing in quantity
- Calves – any signs of DVT

Bloods: FBC post-delivery if indicated (eg. if EBL >500mls, or symptomatic of anaemia)

- If Hb 70-100 and asymptomatic ferrous sulphate
- If Hb <70 and/or symptomatic consider blood transfusion

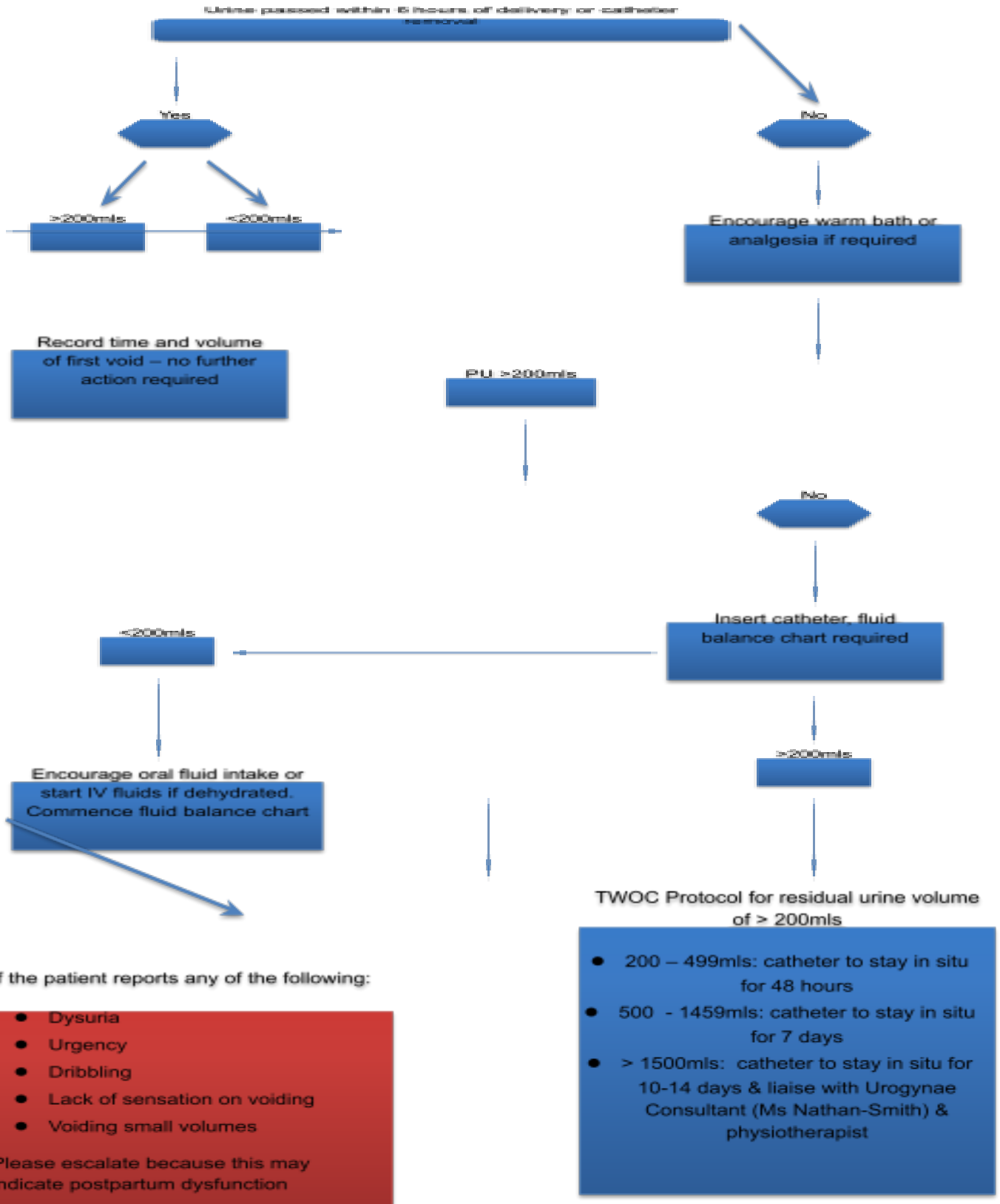
Impression: well and stable with nil obstetric concerns

Plan:

1. Chase/do post natal FBC +/- ferrous sulphate
2. 10 days prophylactic clexane (dose depends on booking weight)
3. TWOC when mobile
4. Check operation notes if any follow-up advised
5. Discharge to midwifery care if stable

Post Delivery Bladder Care

THE MAIN BIT OF UROGYNAE YOU NEED TO KNOW



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Gynaecology

Hyperemesis Gravidarum (HG)

- Nausea and vomiting of pregnancy (NVP) can only be diagnosed when other causes have been excluded. Onset should be in the first trimester.
- HG diagnosed if protracted NVP, with dehydration, weight loss and electrolyte imbalance
- Risk of thiamine deficiency and Wernicke's encephalopathy, electrolyte imbalances and VTE

Use proforma to clerk – has all medications and investigations listed. Search Intranet 'Proforma for the Management of Hyperemesis Gravidarum'

History:

- Hyperemesis in previous pregnancies?
- R/O other causes of N&V – infection, GI causes, metabolic causes
- Consider admission if not E&D, weight loss, electrolyte imbalance, ketones ≥ 3

Investigations:

- Urine dip – ketones and rule out infection
- Bloods – FBC, U&Es, LFTs, TFTs, beta-hCG
- If no early/dating scan yet – book TV USS as IP/urgent OP to confirm intra-uterine pregnancy and exclude molar pregnancy

Management:

- IV fluids – 0.9% NaCl with KCl initially or Hartmann's infusion if potassium depletion not a factor
- Antiemetics – cyclizine (PO/IV), prochlorperazine (PO/buccal/IM), promethazine (PO), metoclopramide (PO/IV/IM), ondansetron (IV), steroids (consultant decision)
- Supplements – thiamine PO whilst IP, folic acid 5mg OD until 12 weeks gestation
- VTE – TEDS and prophylactic enoxaparin whilst inpatient

RPOC/Endometritis

Presentation

- History of recent miscarriage (expectant/medical/surgical), TOP or delivery
- Persistent/worsening PVB +/- lower abdo pain
- Offensive/heavy discharge
- Fevers

Investigations

- Positive HCG (always check serum levels)
- FBC, CRP, G&S
- Swabs (HVS)
- TV USS

Management

- Consider admission if systemically unwell (eg. requiring IV antibiotics or bleeding ++)
- If stable – for oral abx and home with next available EPU scan

Menorrhagia

Acute Management

- ABC
- Check Hb on VBG & lab results, clotting, G&S
- Commonly used medications:
    - Non-hormonal: Tranexamic Acid 1g TDS PO/IV & Mefenamic acid 500mg TDS PO
        - NB: for TXA, assess for increased risk of thrombosis
    - Hormonal: Norethisterone 5mg TDS PO

Need to determine underlying cause:

- History – ?chronic or acute problem, IMB/PCB/PMH
- Investigations – usually requires further imaging (TVUSS +/- hysteroscopy +/- biopsy)

Pelvic Inflammatory Disease

PID is an infection of the upper genital tract. Can be caused by a variety of organisms; some vaginal commensal, others sexually transmitted: most commonly Chlamydia trachomatis and Neisseria gonorrhoeae.

History:

- Lower abdominal pain
- Abnormal PV discharge
- Fever
- Postcoital or intermenstrual bleeding
- Deep dyspareunia
- Risk factors: age <25, previous STI, new or multiple sexual partners, ERPC or IUD insertion, post partum endometritis

Examination:

- Abdominal tenderness
- May have cervical excitation
- Adnexal tenderness on bimanual exam
- Speculum exam and take HVS and endocervical swabs (Chlaymdia and Gonorrhoea NAAT)

Investigations:

- Triple swabs
- FBC and CRP to check for inflammatory markers
- USS may show tubo-ovarian abscess / free fluid in the pelvis
- Diagnostic laparoscopy not usually done as clinical diagnosis – would show filmy adhesions

Management:

- Consider admission if severe symptoms, not tolerating/responding to oral therapy or with tubo-ovarian abscess
- Trust guidelines on antibiotics
- Consider removal of IUD send for MC&S (do not put in formalin)

Ovarian Events

Torsion = surgical emergency

- Clinically will be peritonitic – pain ++, guarding, rebound +, refusing to move, vomiting
- If high clinical suspicion – for urgent TVUSS +/- Theatres

Risk factors – known ovarian cyst, especially large/dermoid cysts which are more likely to tort.

Gynae Oncology

Consultants = Mr Cheong, Mr Macdonald, Mr Subramanian

Most diagnoses and management are done as outpatient via 2ww pathways.
Inpatient admissions usually for symptom control – abdominal pain, symptomatic from ascites, symptomatic anaemia secondary to PV bleeding

Diagnosis

- Imaging – MRI pelvis + CTCAP for staging
- Biopsy – outpatient (in MAU) or inpatient (guided by IR)
- MDM
    - Every Wednesday at GSTT
    - Link via Mr Cheong or Mr Macdonald
    - Referral via email or in person (Sarah-Jay)
- 2ww – write into discharge summary and refer by 2ww email

Urogynae

Quite specialist so very rarely encountered in day-to-day SHO work.
If interested, can attend Urogynae clinic with Ms Nathan-Smith.

Scenarios you may encounter:

- Post-partum urinary retention see page 30 of handbook and Trust guidelines
- Prolapses +/- retention on GOC ask senior for help
    - Management usually by pessary and estradiol cream
    - May need vaginal pack with estradiol cream for 24h if prolonged exposure leading to dryness

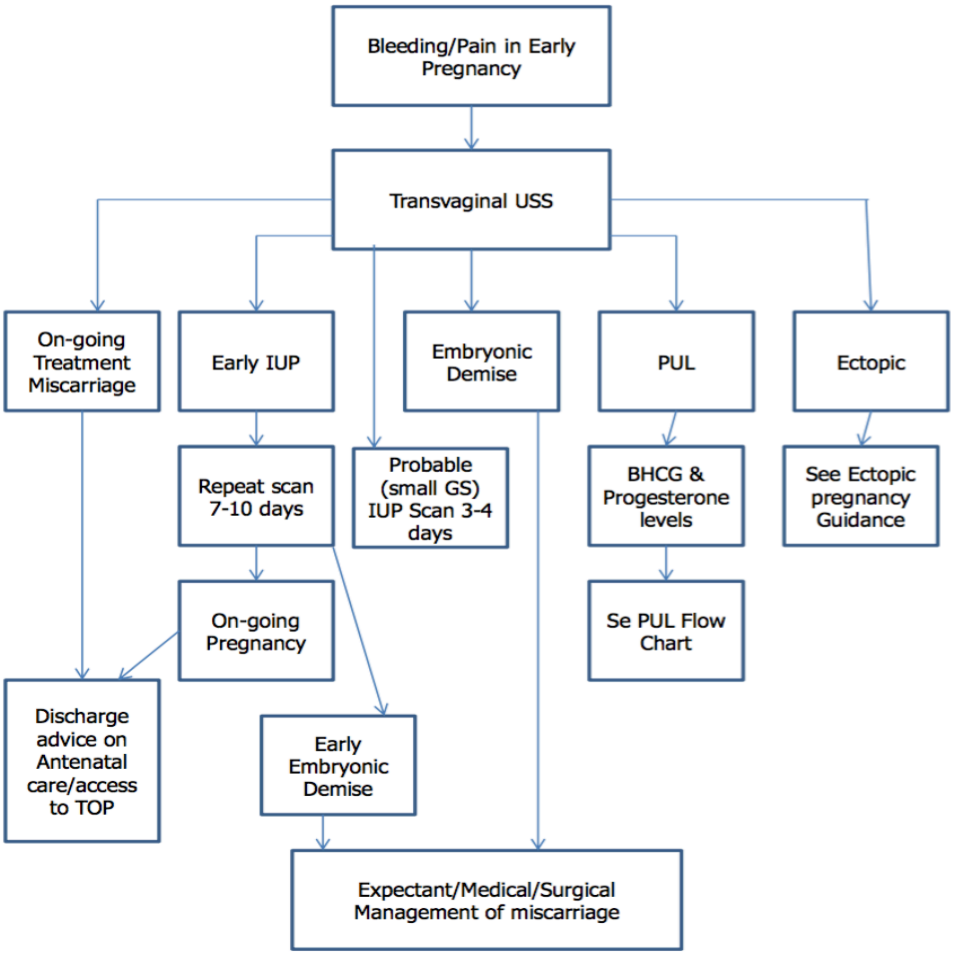
Early Pregnancy

Early pregnancy includes up to 13 completed weeks. Bleeding in EP is common and not necessarily an indication of inevitable miscarriage. Approximately 20% of pregnancies miscarry. Risk factors include maternal age and certain medical conditions (eg. connective tissue disorders or diabetes). Other diagnoses include pregnancies of unknown locations (PULs), ectopic pregnancies, or gestational trophoblastic disease (eg. molar, etc.)

Logistics:

- EPU has a system of following-up patients (miscarriage, PUL, molars) via the 'Whiteboard' – **please let Judith know if patient needs to be added** as this will allow EPU team to F/U bloods, scans, etc.
- If such patients are admitted/undergo emergency surgery over the weekend – please inform EPU team (Miss Fuller and Judith) via email.

Management of Miscarriage and Bleeding in Pregnancy up to 14 weeks Policy Version 2.5 January 2017



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Pregnancy of Unknown Location (PUL)

Positive HCG, but no IUP or EUP seen on TVUSS
Gynae SHOs will not be expected to manage these

Differentials:

- Too early in pregnancy (unlikely to see anything on scan if HCG <1000)
- Miscarriage
- Ectopic

Management

- If starting HCG <1000, for repeat HCG in 48 hours
- If starting HCG >1000, discuss with senior re: repeat scan by EPU sonographer/Miss Fuller
- If stable for outpatient F/U – clear safety net advice required
- If returning on weekday – book FBC + HCG on iCare as 'OP phlebotomy' and advise patient to attend Phlebs at 0830, then EPU at 0900 for bloods review
- If returning on weekend
    - Can attend A&E for bloods
    - Fill out A&E proforma in EPU (brief history, which bloods required and whether patient needs to wait for results +/- SHO review. Eg. if stable and not in pain, may not need to wait for SHO review, results can be F/U in EPU).
    - **Add to Gynae list with brief history and plan** and hand over to GOC

Miscarriage

Definition

- **Early miscarriage:** up to 13 completed weeks gestation
- **Threatened miscarriage:** bleeding in early pregnancy with Cx closed
- **Inevitable miscarriage:** bleeding in early pregnancy with Cx open
- **Missed**: pregnancy failed to develop, diagnosed at scan
- **Incomplete**: some but not all POC have passed
- **Complete**: all POC have been passed, usually associated with cessation of PVB/pain

Presentation – PVB +/- lower abdo pain, symptoms of anaemia, or diagnosed sonographically

Investigations

- FBC, coagulation, G&S
- HCG + progesterone
    - If progesterone <30, pregnancy less likely to succeed
    - HCG may be dropping or sub-optimal rise (eg not doubled in 48 hours)
- TVUSS
    - Can be diagnosed on first scan if CRL >7 with no FHA or empty GS >25mm
    - If CRL <7mm or GS <25mm then rescan in 1 week
    - If no GS seen on first scan then technically PUL

Acute Management

- If unstable or significant PVB/pain
    - Admit
    - Urgent IP TVUSS (+/- Theatres for ERPC)
    - NBM + IV fluids
    - Cross-match 2 units
    - Analgesia
- Outpatient – if stable, for home then EPU next available day (eg. Next weekday or Monday if weekend)

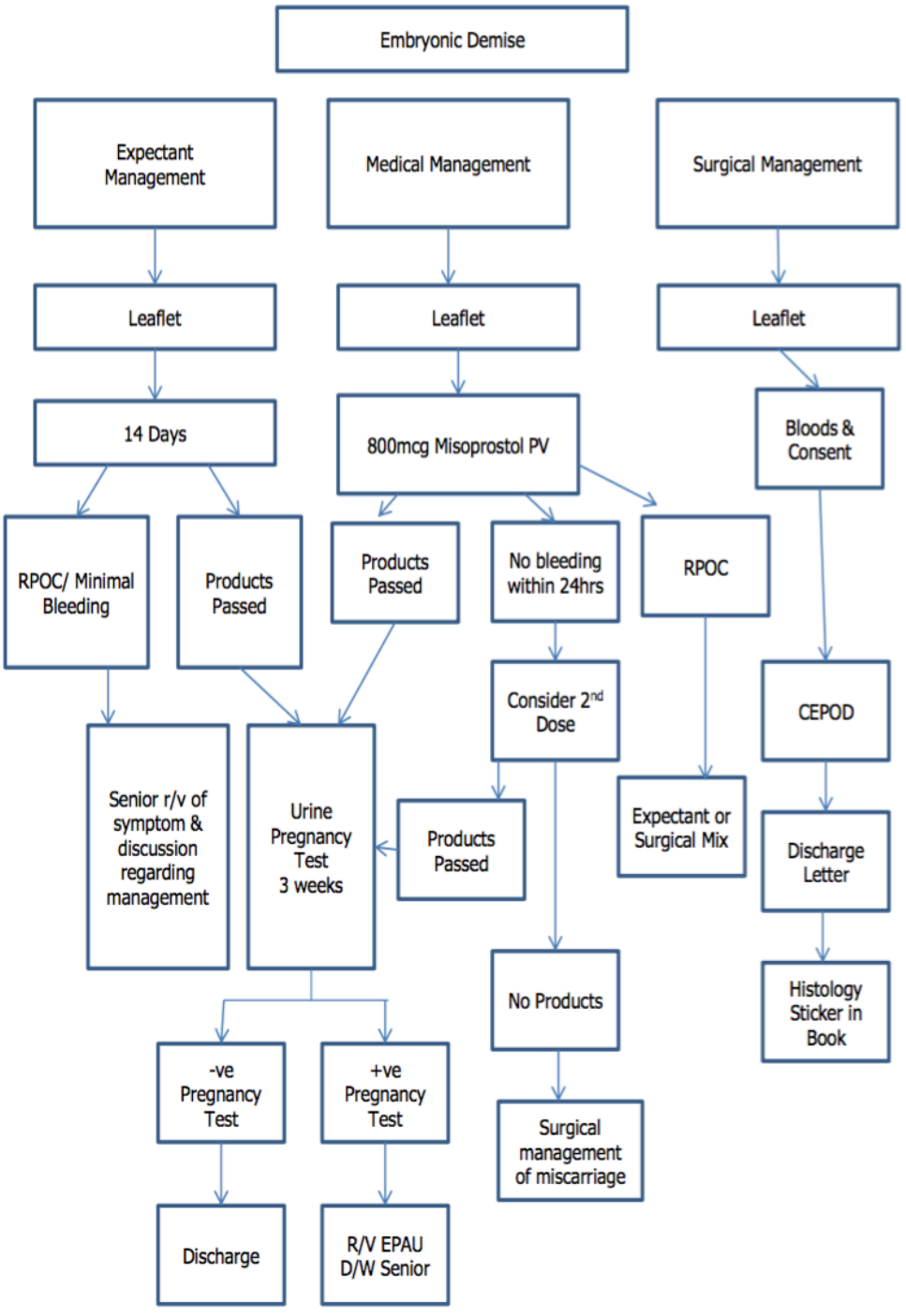
Once confirmed miscarriage see flowchart next page for management options:

- Expectant
- Medical: misoprostol 800 micrograms PV with F/U urine HCG in 3/52 (inform patient to expect some bleeding & cramping, codeine can be given as TTO)
- Surgical: follow SMM proforma, find next appropriate SMM/CEPOD date etc

Anti-D

Required within 72hrs of any sensitising events in rhesus negative mothers, such as:

- Heavy bleeding in miscarriage / threatened miscarriage (not indicated for light bleeding)
- TOP/SMM
- Salpingectomy for ectopic pregnancy


Embryonic Demise
Expectant Management
Medical Management
Surgical Management
Leaflet
Leaflet
Leaflet
14 Days
800mcg Misoprostol PV
Bloods & Consent
RPOC/ Minimal Bleeding
Products Passed
Products Passed
No bleeding within 24hrs
RPOC
Consider 2nd Dose
CEPOD
Senior r/v of symptom & discussion regarding management
Urine Pregnancy Test 3 weeks
Products Passed
Expectant or Surgical Mix
Discharge Letter
No Products
Histology Sticker in Book
-ve Pregnancy Test
+ve Pregnancy Test
Surgical management of miscarriage
Discharge
R/V EPAU D/W Senior

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Ectopic

Ectopic pregnancy occurs when the pregnancy implants outside the uterine cavity. The incidence of ectopic pregnancy is 11/1000 pregnancies.

The potential danger with an ectopic pregnancy is the **risk of rupture**, causing **intra-abdominal bleeding** which can be massive and life-threatening.

Most common site is tubal (98% of ectopic pregnancies) with rarer sites being cornual, cervical, ovarian and abdominal. Heterotopic pregnancy is a rare condition where an intrauterine pregnancy coexists with an ectopic pregnancy.

Presentation – usually pain +++ predominant rather than PVB, +/- collapse/dizziness

Risk Factors

- Previous PID/STIs
- Previous ectopic pregnancy
- Previous surgery on fallopian tube
- Previous abdominal surgery including previous C-Sections
- Sub-fertility
- Assisted reproduction (IVF/IUI)
- Smoking
- Younger or older maternal age

Investigations

- FBC, Coag, G&S
- HCG + progesterone
    - HCG may be dropping or sub-optimal rise (eg not doubled in 48 hours)
    - Low progesterone may indicate failing ectopic, but can have mid-range progesterone meaning well-supported ectopic
- TVUSS

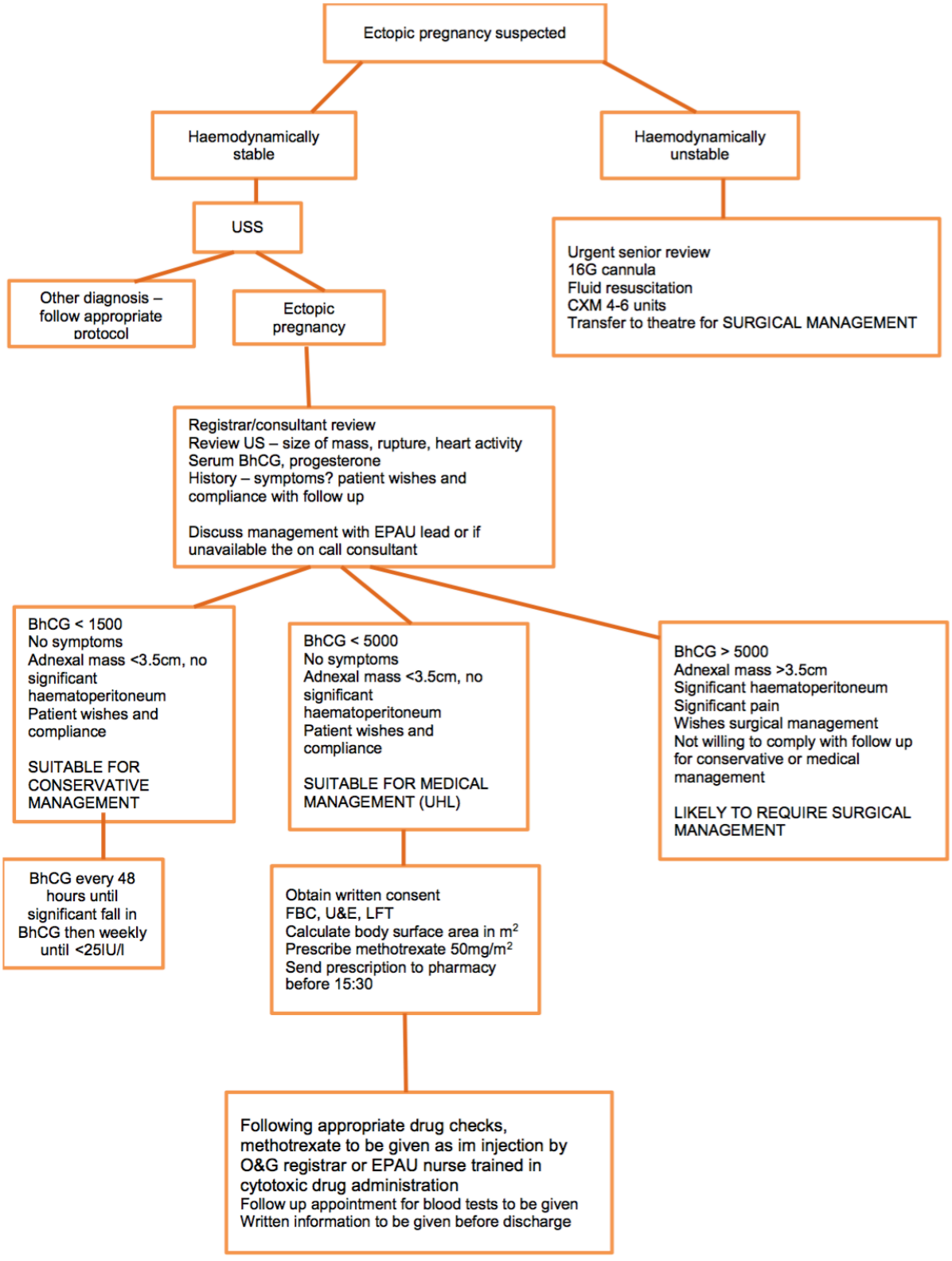
Acute Management

- If unstable
    - ABCDE, 2 x grey cannula, VBG for Hb
    - Call senior registrar – they can fast scan in A&E for haemoperitoneum
    - If decision for theatre pt will need consenting, yellow form, 2 x G&S, VTE, inform anaesthetist & CEPOD team, cross match 2-4 units
- If stable but significant pain
    - Requires SpR/SR review prior to admission
    - Urgent IP TVUSS
    - Consent and yellow form
    - NBM + IV fluids
    - 2 x G&S
    - Consider monitoring Hb 6-hourly (VBG) if awaiting scan
    - Analgesia
- If stable/non-significant pain,
    - Outpatient management: home, referral on iCare to EPU, patient will be seen next available day (eg. Next weekday or Monday if weekend) with safety net advice if any significant pain/bleeding develop must come in.
    - Include safety-netting advice on discharge summary

Once confirmed ectopic:

Management options are conservative, medical and surgical.

1. **Conservative**
    - Criteria
        - No significant pain
        - Haemodynamically stable
        - Unruptured ectopic mass <35mm with no visible FHA
        - Beta-hCG < 1500
        - Compliant to serial beta-hCGs every 48 hours)
2. **Medical**
    - Criteria
        - No significant pain
        - Unruptured ectopic mass <35mm with no visible FHA
        - bHCG 1500-5000
        - Confirmed no IUP
        - Normal baseline FBC/U&Es/LFTs
    - Methotrexate only given at UHL
    - Should be discussed with/counselled by senior
3. **Surgical**
    - Indications
        - Haemodynamically unstable
        - Live ectopic
        - Haemoperitoneum
        - Serial bHCGs rising
        - Failed conservative or medical mx
        - Patient choice
    - Laparoscopic approach most common
    - Salpingectomy vs salpingotomy
        - If healthy contralateral tube for salpingectomy (same subsequent fertility, with lower risk of future ectopic)
        - If hx of fertility-reducing factors (contralateral tubal damage, previous ectopic, previous abdominal surgery, previous PID), and patient wants future pregnancies better fertility with salpingotomy than salpingectomy


Ectopic pregnancy suspected
Haemodynamically stable
Haemodynamically unstable
USS
Urgent senior review
16G cannula
Fluid resuscitation
CXM 4-6 units
Transfer to theatre for SURGICAL MANAGEMENT
Other diagnosis – follow appropriate protocol
Ectopic pregnancy
Registrar/consultant review
Review US – size of mass, rupture, heart activity
Serum BhCG, progesterone
History – symptoms? patient wishes and compliance with follow up
Discuss management with EPAU lead or if unavailable the on call consultant
BhCG < 1500
No symptoms
Adnexal mass <3.5cm, no significant haematoperitoneum
Patient wishes and compliance
SUITABLE FOR CONSERVATIVE MANAGEMENT
BhCG < 5000
No symptoms
Adnexal mass <3.5cm, no significant haematoperitoneum
Patient wishes and compliance
SUITABLE FOR MEDICAL MANAGEMENT (UHL)
BhCG > 5000
Adnexal mass >3.5cm
Significant haematoperitoneum
Significant pain
Wishes surgical management
Not willing to comply with follow up for conservative or medical management
LIKELY TO REQUIRE SURGICAL MANAGEMENT
BhCG every 48 hours until significant fall in BhCG then weekly until <25IU/l
Obtain written consent
FBC, U&E, LFT
Calculate body surface area in m2
Prescribe methotrexate 50mg/m2
Send prescription to pharmacy before 15:30
Following appropriate drug checks, methotrexate to be given as im injection by O&G registrar or EPAU nurse trained in cytotoxic drug administration
Follow up appointment for blood tests to be given
Written information to be given before discharge

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Gestational Trophoblastic Disease (Molar Pregnancies)

Gestational trophoblastic disease (GTD) encompasses a spectrum of rare, almost always highly curable pathology ranging from non-malignant (partial and complete hydatiform moles) to malignant (invasive mole, choriocarcinoma, and placental site trophoblastic tumour (PSTT)).

All GTD arise from a pregnancy – fertilised cell becomes abnormal as a result of chromosomal imbalance. Cells grow rapidly, produce HCG but unable to form proper embryo. Treatment by evacuation is sufficient to be curative in 4/5 cases. Further treatment is generally by chemotherapy.

Clinical presentation – typically as miscarriage or hyperemesis, rarely large-for-dates uterus (usually diagnosed in early pregnancy)

Investigations:

- bHCG
- TVUSS – typical 'snowstorm' appearance
- ERPC Histology to confirm

If confirmed histological diagnosis:

- Lab should urgently contact EPU team with lab report
- EPU team to refer patient to Charing Cross
- Follow-up usually by serial HCGs until HCG 0

Useful resource – Charing Cross Hospital Trophoblast Disease website www.hmole-chorio.org.uk/

Abbreviations

AFI: amniotic fluid index
APH: antepartum haemorrhage
ARM: artificial rupture of membranes
CS: Caesarean section
CTG: cardiotocography
EFM: electronic fetal monitoring
ERPC: evacuation of retained products of conception
EUP: extra-uterine pregnancy
fFN: fetal fibronectin
FSE: fetal scalp electrode
FM: fetal movement
IUD: intrauterine death
IUP: intrauterine pregnancy
IUGR: intrauterine growth restriction
MMM: medical management of miscarriage
MOH: major obstetric haemorrhage
MROP: manual removal of placenta
NND: neonatal death
OC: obstetric cholestasis
PPH: postpartum haemorrhage
PPROM: pre-term premature rupture of membranes
PROM: premature rupture of membranes
PTL: pre-term labour (TPTL: threatened PTL)
PUL: pregnancy of unknown location
PV: per vaginal examination
RPOC: retained products of conception
SB: still birth
SMM: surgical management of miscarriage
SROM: spontaneous rupture of membranes
SVD: spontaneous vaginal delivery
VBAC: vaginal birth after caesarean section
VE: vaginal examination

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