INTERIM RCOG/RCM/PHE/HPS CLINICAL GUIDELINES ON ZIKA VIRUS INFECTION AND PREGNANCY INFORMATION FOR HEALTHCARE PROFESSIONALS

(UPDATED JULY 2017)

- Zika transmitted by bite of infected Aedes mosquito, active during the day, but occasionally sexually transmitted. No evidence for transmission by breast milk.
- Often asymptomatic, but may give itching, fever, headache and retro-orbital pain.
- Risk of birth defects from Zika infection has been difficult to establish: rates of adverse outcome vary from 6-46%, according to different studies.
- Earlier infection seems to be associated with higher rates of adverse fetal outcome, risk in the third trimester is minimal.
- Microcephaly is the most well publicised cranial abnormality, others include ventriculomegaly and callosal abnormalities.
- Other abnormalities include FGR, oligohydramnios, and talipes.
- Prevent by using DEET, covering up and sleeping under nets. Pregnant women should consider, or those planning pregnancy, should consider avoiding travel to moderate or high risk areas. If both partners travelled to a high or moderate risk area consider delaying pregnancy for 6 months, or 8 weeks if only female travelled.
- Serology can be tested if symptoms develop within 2 weeks of return from a Zika-area – should be sent to Rare and Imported Pathogens Laboratory (RIPL).
- Supportive treatment.
- If returned from a high / moderate risk area and no symptoms, routine testing not advised or available, but consider repeat USS at 28 – 30/40, in addition to usual anomaly scan.
- If signs of microcephaly and history of travel to Zika area, refer to FMU, and consider amnio to PCR-test the fluid for Zika (after 20/40).
MESH IMPLANTS

- Recent high profile negative publicity and campaigns (e.g. Sling the Mesh) about adverse outcomes from gynaecology procedures using mesh.
- Adverse outcomes should be reported via the yellow card system (yellowcard.mhra.gov.uk)
- All mesh procedures should be registered on databases provided by BSUG and BAUS
- The use of mesh in primary procedures to treat POP is not supported, and should not be offered first line.
- On 10.7.18 NHS England announced implementation of a ‘high vigilance restriction period’ regarding vaginal mesh.
- For the majority of patients mesh surgery should not be performed during this period of restriction. Any procedures that are planned will need MDT assurance at trust levels, fully supported patient choice, evidence of the competence of the surgeon, strict adherence to the interventional procedure guidance published by NICE.
- NICE guidance on SUI and mesh is pending (due 2019).
• In January 2016 the National Screening Committee announced that NIPT would be offered on the NHS for women with a risk of Downs >1 in 150, or a risk of T18 or T13 of >1 in 15.
• The committee notes that NIPT is a screening test, and invasive testing would still be needed for a diagnosis.
• NICE recommends NIPT in Rh negative women to guide the need for anti D. [Link](https://www.nice.org.uk/guidance/dg25/resources/highthroughput-noninvasive-prenatal-testing-for-fetal-rhd-genotype-pdf-1053691935685)
• Anti D is not required if the fetus is Rh-negative.
• NIPT can also be used for a variety of single gene disorders.
The 2015 Montgomery ruling has practical implications around medical consent.

Mrs Montgomery was a P0, T1DM and had a LGA infant on 36/40 US. She had an induction at 38+5.

She expressed concerns antenatally about the baby’s size (although she did not specifically ask about shoulder dystocia). Risk of dystocia was not discussed. The consultant defended her practice, saying she considered ‘the risk of a grave problem for the baby arising as a result of shoulder dystocia was very small (0.1%).’

The baby was delivered by forceps. Owing to dystocia there was a 12-minute delay between delivery of the head and the body. The baby developed CP as a result.

Mrs Montgomery was successful in her claim of negligence.

The Montgomery ruling updates the Bolam test – which held that negligence cannot apply if a doctor ‘reaches the standard of a responsible body of medical opinion’, (given that there would have been a reasonable proportion of responsible doctors who would have counselled in the same way). It also updates the Sidaway ruling which states that where the risk of injury from a procedure is <10%, there is no duty to inform the patient of the risk (provided a reasonable body of medical opinion would have done the same).

Montgomery means that clinicians must now explain all material risks associated with a proposed treatment or management plan.

‘Material’ risks are those which a ‘reasonable person in the patient’s position would be likely to attach significance to, or the doctor is, or should reasonably be aware, that the particular patient would be likely to attach significance to it.’

Doctors must supply information on possible alternative treatments and on the consequences of not performing any treatment or intervention.

Facilitate decision making by giving patient’s time, access to other high-quality information and make sure patients understand their options.
ESMYA PRESCRIBING UPDATES

- Ullipristal acetate (Esmya) was authorised in 2012 for treatment of fibroids, and was often prescribed for HMB associated with fibroids.
- On 9.2.2018 the Medicines and Healthcare Product Regulatory announced temporary safety measures after five reports of serious liver injury among women using Esmya. (four requiring liver transplant): no new treatment courses were to be started, and LFTs needed to be monitored monthly in current users.
- On 8.8.2018 the European Medicines Agency announced that new treatment courses of Esmya could be started but only in certain circumstances:
  - If no pre-existing liver disease
  - LFTs are required prior to starting: don’t start if ALT or UST are more than 2 times the upper limit of normal
  - LFTs needed to be performed monthly during the first 2 treatment courses
  - Stop if any signs / symptoms of liver injury, and warn patients of these
- The prescription of EllaOne (Ullipristal acetate emergency contraception) is not affected by these regulations

Check LFTs prior to starting, rule out liver disease
Check LFTs monthly during the 1st two Rx courses
Stop Esmya if deranged LFTs or symptoms of liver injury

New criteria for starting and continuing Esmya
WORKPLACE ISSUES

The RCOG’s Workforce Report 2017 emphasised the following key messages:
• 90% of obstetric units report gaps in middle-grade rota
• 30% attrition rates are typical, with 15.4% of trainees thinking about leaving O&G once a month or more
• To help recruitment, more trainees are being recruited at ST3 or later
• Resident consultant working may be needed on some units – but the consultants who work resident shifts out of hours should get parity of responsibility and professional development opportunities.

Improving workplace behaviours
• Attrition rates in O&G are high. Trainees report more undermining behavior than any other specialty.
• The RCOG (in conjunction with RCM) have developed an ‘undermining toolkit’ to address and improve workplace behavior. This includes an elearning resource, good practice case studies, and studies of proven interventions.
• Every deanery now has a Workplace Behaviour Champion. They offer advice to trainees if they are experiencing unacceptable bullying or undermining behavior.

Supporting doctors
• Doctors subject to complaints often feel exposed, anxious and depressed – which can impact on their provision of patient care.
• The RCOG has set a Supporting our Doctors task group of around 20 members, with representatives from the GMC and a medical defence organisation. This operates according to the following 5 principles:

The principles of the RCOG’s Supporting our Doctors task group

- INCLUSION
  Exclusion after a complaint should be a last resort, with no other alternative

- PEER SUPPORT
  Doctors should be encouraged to support colleagues experiencing difficulties

- TIMELINESS
  Complaint handling & investigations must be completed in a timely manner

- COMPETENCY
  There should be training for everyone handling & investigating complaints

- EQUALITY
  A nationally recognised and applied framework for nationally-consistent complaint handling
Key messages

- Maternal mortality 8.8 per 100,000. This is static. Further action therefore required in order to reach the target of a 50% reduction in maternal deaths by 2030.
- There has been a 23% decrease in indirect maternal mortality since triennia 2010-12.
- Cardiac disease remains leading cause of indirect maternal death (2.34 per 100,000).
- Thrombosis is the leading cause of direct maternal death.
- Maternal suicide is the 3rd largest cause of direct maternal deaths, but is the leading cause of direct deaths occurring during pregnancy or up to a year after the end of pregnancy, with 1 in 7 women who die in the period between 6 weeks and one year after pregnancy dying by suicide.

Areas for action

- Women should be offered influenza immunization in maternity services.
- Escalation policies in place for periods of high activity.
- Women with epilepsy should have verbal and written information on effects of seizures, and anti-epileptics on the fetus and on the pregnancy, breast-feeding and contraception.
- Neurological exam including assessing neck stiffness and fundoscopy is mandatory for women with new onset headaches or headaches with atypical / focal symptoms.
- Women with any past history of psychotic disorder, even where not diagnosed as postpartum psychosis or bipolar should be regarded as at elevated risk and should be referred to mental health services. A late pregnancy and early postnatal care plan should be completed usually between 28-32/40.
- Pregnancy should not be viewed as a contraindication to surgery in the presence of malignancy or progressive symptoms.
- Use a MEOWS scoring system to alert for sepsis, women should be advised on signs and symptoms of sepsis within 24 hours postpartum.
- If MOH there should be evidence of adequate resuscitation prior to extubation.
- Misoprostol should be used with caution for women with late stillbirth, especially in presence of uterine scar.
- Recurrent bleeding, pain or agitation should be seen as red flags in women with placenta accrete and these women should be advised to remain in hospital.
- There is a need for consideration of how competence in abdominal hysterectomy can be achieved for obstetricians in training.
Each Baby Counts is the RCOG’s National quality improvement programme to reduce the perinatal mortality and morbidity.

- It aims to reduce by 50% the incidence of stillbirth, neonatal death and severe brain injury as a result of incidents during term labour by 2020.
- It issued its overall findings for 2015 in October 2017.
- All eligible babies should be reported to Each Baby Counts within 5 days.
- All local reviews should contain sufficient information to determine the quality of care provided.
- Parents should be informed if a local review is taking place, and they should be invited to contribute.
- All local reviews must have an external panel member and must involve neonatologists / neonatal nurses.

**Key recommendations:**

- Women who are apparently low risk should have a formal fetal risk assessment on admission in labour, to determine the most appropriate type of fetal monitoring.
- Regular risk assessments should be performed, and NICE guidance on when to switch from IA to CTG should be followed.
- Staff should have documented annual training in CTG interpretation, but decisions should not be based on CTG appearances alone. All members of the clinical team should maintain situational awareness, and a senior member of staff must maintain oversight of activity with a ‘helicopter view’.
- When managing a complex or unusual situation involving transfer of care or multiple specialties, conduct a safety huddle – to brief the leaders of the key clinical teams.
- The neonatal team must be informed of pertinent risk factors for a compromised baby.
NEW GUIDANCE:
RCOG & NICE

THE MANAGEMENT OF MCDA TWINS
GTG NO 51. NOVEMBER 2016

- Determine chorionicity before 14/40 with reference to number of placental masses, the appearance of the membrane attachment to placenta, and thickness of membrane, insert a photo this in the notes, and store an electronic copy.
- Offer NT measurements and first trimester serum markers, or offer quadruple test in second trimester, if first trimester window missed.
- NIPT for this cohort still needs more evaluation.
- USS every 2 weeks from 16/40 until delivery, calculate weight discordance at each scan. If >20% refer to FMU.
- TAPS should be screened for (by observing MCA PSV) following laser Rx of TTTS.
- TTTS prior to 26/40 consider laser ablation, centres doing this should perform at least 15 procedures annually.
- If TTTS, treatment should be considered between 34-36+6/40.
- Selective reduction may be considered in early onset sGR.
- Abnormal ductus or reduced CTG variability should trigger consideration of delivery.
- In type 1 SGR plan delivery 34-36/40. Type 2 and 3, plan delivery by 32/40.
- After single fetal death in MCDA gestation risk of death in surviving twin is 15%. Significant neurological abnormality 26%. MRI after twin demise may be considered.
- Offer delivery to uncomplicated MCDA twins after 36/40. Appropriate to aim for vaginal delivery unless other indications for CS.
- MCMA twins: delivery by CS 32-34/40.
- Offer selective reduction to all higher order pregnancies including triplets.
- If amnio undertaken, both sacs should be sampled, unless monochorionicity confirmed prior to 14 weeks and fetuses are concordant for growth and anatomy.
- Intravascular injection of abortifacient is not an option for selective reduction because of placental anastomoses, cord ablation has to be used.
• TVUS diagnostic modality of choice. Tubal ectopics are characterised by adnexal mass that moves separate to ovary.
• A serum progesterone level is not useful in predicting ectopic. (<20 suggests failing preg). HCG useful for planning management of an ectopic.
• Cervical ectopic characterised by an empty uterus, barrel shape cervix, a gestational sac present below internal os. The absence of sliding sign and positive blood flow around gestational sac. Cervical ectopics constitute 1% of all ectopics.
• For diagnosing C-scar preg MRI may be used 2nd line if diagnosis equivocal on USS.
• Diagnosis of interstitial pregnancy may be aided by 3D USS / MRI. 2d images can be confirmed with 3d ultrasound. Supplementation with MRI can be helpful. The interstitial line sign has sensitivity 80% and specificity of 98%. MRI may also be useful for aiding diagnosis of ovarian ectopic.
• With healthy contralateral tube, salpingectomy preferred to salpingotomy for surgical Rx of tubal ectopic. If hx of subfertility/fertility-reducing factors consider salpingotomy.
• If salpingotomy, advise about risk of persistent trophoblast, need for HCG follow up and risk of further surgery or need for methotrexate. 3.9-11% need further intervention. 20% of salpingotomy may be converted to salpingectomy. No significant improvement in fertility with salpingotomy.
• If hx of subfertility advise that Rx with medical management or expectant management is associated with better fertility outcomes compared to radical surgery.
• Expectant Rx is an option if stable with an intial hcg <1500 which is declining.
• Consider medical Rx with methotrexate for cervical ectopic. Surgery has a high failure rate, and so reserve for those with life-threatening bleeding.
• Surgical approach is the most effective for C-scar pregnancies.
• Non-surgical management is an acceptable option for stable interstitial pregnancies.
• Systemic methotrexate can be used to treat ovarian ectopics, or may be given post operatively if persistent residual trophoblast or persistently high hcg.
• In heterotopic pregnancies, only consider methotrexate if IUP non-viable or woman wishes to terminate. Surgical removal of the ectopic pregnancy is the treatment of choice. Expectant management may be considered if IUP is non-viable.
• Offer anti-D following surgery, or if heavy bleeding and pain.
• Adverse effects of methotrexate: pulmonary fibrosis, stomatitis, renal failure, gastric ulceration. No effect on ovarian reserve. Wait 3/12 before aiming to conceive again.

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<thead>
<tr>
<th>Success with Methotrexate</th>
<th>Failure with Methotrexate</th>
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<tr>
<td>Haemodynamically stable</td>
<td>Unstable</td>
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<tr>
<td>Hcg &lt;1500, but can be up to 5000</td>
<td>HCG &gt;5000</td>
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<tr>
<td>No FH</td>
<td>Fetal cardiac activity</td>
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<tr>
<td>Certainty no intrauterine pregnancy</td>
<td>Sensitivity to methotrexate</td>
</tr>
<tr>
<td>Willingness to attend Follow up.</td>
<td>May not attend follow up</td>
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• Expectant management success rate of 57-100%. 80-90% success with hcg <1000.
• Rate of ectopic recurrence: 18.5%.
• About 14% of women treated with methotrexate will need more than one dose and fewer than 10% of women treated will require surgery.

MANAGEMENT OF CYSTS IN POST MENOPAUSAL WOMEN
GTG NO 34. JULY 2016

• Appropriate tests in PM women should be done if hx of ?IBS (as this is rare >50), do ca125 and TVUS. Ca125 is the only tumour marker used for primary evaluation, but a normal value does not exclude ovarian cancer.
• TVUS is the most effective way of evaluating cysts, TAUS may provide supplementary information.
• CT, MRI and PET scans not recommended for initial evaluation, but MRI may be used 2nd line for characterisation of indeterminate cysts if US is inconclusive.
• RMI should be calculated: with a threshold of either 200 or 250 to prompt referral to cancer centre and CT abdo pelvis.
• IOTA classification system may also be used, as an alternative to RMI.
• Asymptomatic unilateral unilocular cysts <5 cm have a low risk of malignancy. With normal Ca125, offer repeat evaluation in 4-6 months. Discharged from follow up in one year if cyst unchanged and they remain asymptomatic with a normal ca125.
• If a woman is symptomatic surgical evaluation is required.
• Those with persistent or complex adnexal masses need surgical evaluation.
• Aspiration only in cases of palliation in advanced malignancy, as with aspiration 25% recur within one year and cytology is not useful (sensitivity is just 25%).
• Those with RMI <200 are suitable for laparascopy, and should have BSO.
• A full staging laparotomy will be required if evidence of malignancy is revealed.
• Avoid peritoneal spillage, with bag removal via umbilical port, or vaginal delivery
• If a malignancy is revealed from histology, refer to cancer centre.
• Simple cysts associated with: round or oval shape, thin wall, posterior acoustic enhancement, anechoic, absence of septation or nodules
• Nausea and vomiting in pregnancy (NVP) should only be diagnosed when onset in 1st trimester and other causes excluded. Typically starts between 4th and 7th week.
• Hyperemesis (HG) can be diagnosed if there is protracted NVP and a triad of more than 5% pre-pregnancy weight loss, dehydration, and electrolyte imbalance, and its severity classified by the Pregnancy Unique Quantification of Emesis (PUQE) score.
• Ambulatory day care for suitable patients when community / primary care measures have failed and PUQE score is <13.
• Inpatient management when continued N&V and can’t keep down oral antiemetics. Continue inpt rx if continued N&V with ketonuria and / or weight loss (>5%) despite oral antiemetics, or if confirmed / suspected comorbidity.
• If HG, Do USS to confirm viability, gestational age.
• Oculogyric crises can occur with phenothiazines and metoclopramide, if so, stop.
• Ginger can be used in mild to moderate NVP.
• Some evidence for acupressure. Hypnotic therapies not recommended.
• Check U&Es daily in women requiring IV fluids.
• H2 receptor antagonists or PPIs may be used for women with reflux.
• Thiamine and LMWH should be given to all admitted with NVP.
• When all other therapy fails – enteral or parenteral treatment should be considered.
• Serial USS for growth if continued symptoms into late 2nd or 3rd trimester.
• NVP affects up to 80% of pregnant women. HG affects 0.3–3.6% pregnant women.
• HG resolves by 20th week in 90% of pregnancy.

| First line |
|---|---|
| Cyclizine 50 mg PO, IM or IV 8 hourly |
| Prochlorperazine 5–10 mg 6–8 hourly PO; 12.5 mg 8 hourly IM/IV; 25 mg PR daily |
| Promethazine 12.5–25 mg 4–8 hourly PO, IM, IV or PR |
| Chlorpromazine 10–25 mg 4–6 hourly PO, IV or IM, or 50–100 mg 6–8 hourly PR |

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<tr>
<td>Metoclopramide 5–10 mg 8 hourly PO, IV or IM (maximum 5 days' duration)</td>
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<td>Domperidone 10 mg 8 hourly PO; 30–60 mg 8 hourly PR</td>
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<td>Ondansetron 4–8 mg 6–8 hourly PO; 8 mg over 15 minutes 12 hourly IV</td>
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<td>Corticosteroids: hydrocortisone 100 mg twice daily IV and once clinical improvement occurs, convert to prednisolone 40–50 mg daily PO, with the dose gradually tapered until the lowest maintenance dose that controls the symptoms is reached</td>
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In pregnant women presenting with seizures in 2nd half of pregnancy, when seizures can't be clearly attributed to epilepsy, proceed with eclampsia protocol.

Women with epilepsy (WWE) should be informed of congenital abnormalities risk, and that risk depends on the type, number and dose of AEDs. Inform also about the possible impact on neurodevelopment of the neonate after valproate exposure.

In utero exposure to carbamazepine and lamotrigine doesn't appear to adversely affect neurodevelopment. Limited evidence on long term effect of levetiracetam and phenytoin.

Women should take 5 mg folic acid pre-pregnancy and at least up to end of 1st trimester.

Exposure to valproate and other AED polytherapy should be minimised: Consider changing medication prior to conception, under guidance of epilepsy specialist.

2/3rds of women will not have seizure deterioration in pregnancy. 30% have an increase in seizure frequency, 10% have a decrease in frequency

WWE who’ve experienced seizures in past year need close surveillance.

Invite WWE to register with UK epilepsy and pregnancy register.

Routine monitoring of serum AED levels is not recommended.

If admitted, they should be put somewhere they can be closely observed.

Serial growth scans are required for women on AEDs.

All babies of WWE should have 1mg IM vitamin K.

Insufficient evidence to recommend oral vitamin K for women with epilepsy.

Long acting benzodiazepines such as clobazam can be considered if there’s a high risk of seizures in the peripartum period (but small risk of resp depression in labour).

AED intake should continue in labour.

Continuous CTG recommended in women at high risk of seizures in labour, and following any intrapartum seizures.

Pethidine should be used with caution in WWE.

Pain relief, including epidural, helps lower risk of seizure.

WWE with epilepsy not on AED and seizure free for >1 year may be offered water birth, after detailed consultation.

Copper IUD, mirena, and depo should be promoted as reliable methods of contraception that are not affected by enzyme inducing AEDs.

Efficacy of oral contraceptives, transdermal patches, POP may be affected if they are taking enzyme-inducing drugs for epilepsy.

WWE taking lamotrigine monotherapy and oestrogen-containing contraceptives should be informed of potential increase in seizures due to a fall in lamotrigine levels.

Epilepsy prevalence in pregnancy is 0.5–1%. Confers 10-fold risk of maternal death

14 maternal deaths due to epilepsy in 2014 MBRRACE (12 were SUDEP).

Women who are seizure free for 10 years (at least 5 without AED) are considered no longer to have epilepsy.

Tonic/clonic fits confer biggest risk SUDEP and associated with fetal hypoxia.

Lamotrigine and carbamazepine have lowest risk of congenital abnormality.

Most common congenital malformations assoc with AEDs are NTDs, heart disorders, urinary tract, skeletal abnormalities, cleft palate. Valproate assoc with hypospadias.

Risk of malformation 10.7% with s. valproate, 16.8% with valproate polytherapy.

Valproate assoc with lower developmental quotient, lower IQ, higher rates of autism.

In WWE who are seizure free for at least 9/12 prior to pregnancy, 74-92% continue to be seizure free. Women with focal epilepsy more likely to get seizures in pregnancy.

Epilepsy: inc miscarriage risk (RR1.54) APH(1.49) HTN(1.3) CS(1.2) PPH (1.29).
- Women on AED have increased risk of FGR (3.51). The SGA risk without AED is 1.26.
- For ongoing seizure give lorazepam IV. If no IV access, give diazepam 10-20mg rectally, repeat again 15 mins later. Then consider phenytoin or fosphenytoin IV.
- Breastfeeding should be encouraged postpartum. If AED dose increased in pregnancy should be reviewed within 1 day of delivery to avoid postpartum toxicity.
- Risk of seizures highest in peripartum period (1-2%).
- Risk of fetus having epilepsy is about 4% (compared with 0.5% in gen pop).
- Note high rates of postpartum depression (29%) in WWE, esp if on polytherapy.
- WWE who have generalised epilepsies are more likely to remain seizure free than those with focal epilepsies.
• Visualisation and biopsy of the uterus with hysteroscopy should be done if endometrial hyperplasia has been diagnosed within a polyp or other lesion.
• The most common presentation of hyperplasia is AUB.
• Hyperplasia should now be classified into just 2 groups.
  I: hyperplasia without atypia
  II: atypical hyperplasia
• Regression rate of 89-96% with progestogen therapy for hyperplasia without atypia.
• Relapse in regressed non-atypia may be 12.7%. Higher with higher BMI.
• Granulosa cell tumours associated with hyperplasia, if cysts seen do tumour markers.
• Rx for hyperplasia without atypia should aim for minimum of 6 months.
• Risk of endometrial hyperplasia without atypia progressing to endometrial cancer is less than 5% over 20 years, most will regress spontaneously.
• Up to 10% of obese women may have hyperplasia.
• Reversible risk factors e.g. obesity / HRT use should be identified and addressed.
• Observation with F/U endometrial biopsies to ensure regression can be considered if RFs be reversed. But inform that progestogens give better disease regression.
• Progestogen is indicated in women who fail to regress following observation alone and in symptomatic women with abnormal bleeding.
• Mirena should be 1st line (higher regression rate, fewer adverse effects and more favourable bleeding profile, less risk of needing hysterectomy)
• Continuous progestogens for women who decline Mirena.
• If regression achieved, keep Mirena for 5 years, as reduces the risk of relapse.
• Endometrial surveillance should be arranged at a minimum of 6/12 intervals. At least 2 consecutive negative biopsies should be achieved prior to discharge.
• In women at high relapse risk with hyperplasia without atypia advise annual biopsies.
• Hysterectomy should not be considered as 1st line for hyperplasia without atypia, but is indicated in women:
  -not wanting to preserve fertility
  -when progression to atypical hyperplasia occurs during follow up
  -there is no histological regression after 12 months of Rx
  -there is a relapse
  -there is a persistence of bleeding symptoms
  -or endometrial surveillance is unacceptable.
• PM women needing surgical management for endometrial hyperplasia without atypia should be offered BSO and hysterectomy, laparascopically.
• Endometrial ablation not recommended.
• Advice TAH for hyperplasia with atypia, with a laparoscopic approach. If post menopausal advise BSO, if pre-menopausal individualise this decision.
• No benefit from intraoperative frozen section.
• If women with atypia wish to preserve fertility, then histology imaging and tumour marker results should be reviewed in MDT and arrange for ongoing endometrial surveillance. Note 4% risk of co-existing ovarian ca with atypia.
• For this cohort, recommend Mirena, and biopsy every 3/12 until regression on 2 consecutive biopsies. Then f/u with biopsy every 6/12 until hysterectomy.
• Achieve regression with at least 1 endometrial sample before seeking to conceive.
• Women wishing to conceive with hyperplasia should be referred to fertility specialist
• ART may be considered, but regression should be achieved, this is associated with higher implantation and clinical pregnancy rates.
- Women with endometrial hyperplasia taking a sequential HRT who wish to continue HRT should be advised to change to continuous progestogen with Mirena or a continuous combined HRT, with ongoing surveillance.
- Women taking tamoxifen should be informed about increased risks of endometrial hyperplasia and ca. They should be encouraged to report any abnormal PVB.
- If women develop hyperplasia while on tamoxifen they should be reassessed and management should be according to the histological classification of endometrial hyperplasia and in conjunction with the woman’s oncologist.
- Progression from atypical hyperplasia to endometrial ca: Cumulative risk of 8% over 4 years, 12.4% over 9, of 27.5% over 19 years.

**Treatment algorithm for hyperplasia without atypia**

1. **Hyperplasia without atypia**
2. **Risk of progression atypia to endometrial ca is <5% over 20 years**
3. **Address risk factors, Mirena 1st line treatment, or continuous oral progesterones**
4. **Biopsies at 6/12 intervals. At least 2 consecutive negative biopsies before discharge. If high risk of relapse, (e.g. BMI > 35) advise annual biopsies.**
5. **Advise surgery if no regression after 12/12 Rx, relapse, persistent bleeding or endo surveillance unacceptable.**
OVARIAN HYPERSTIMULATION SYNDROME
GTG NO 5. FEBRUARY 2016

- Units that treat OHSS should inform centre that performed IVF: who then tell HFEA.
- Units should have 24-hour number for patients to contact regarding OHSS.
- Admit if unable to get satisfactory pain relief, unable to maintain adequate fluid intake
due to nausea, signs of worsening OHSS, unable to attend for opt follow up.
- Outpt. management usually suitable in mild / mod OHSS (and in some cases severe).
- Get assistance if severe / critical OHSS with MDT.
- Fluid replacement guided by thirst is the most physiological approach.
- Indications for paracentesis: severe abdo pain, pain 2nd to ascites, SOB and respiratory compromise 2nd to ascites. Oliguria despite adequate volume replacement, 2nd to abdominal pressure causing reduced renal perfusion.
- Paracentesis should be done under USS, vaginally or abdominally.
- If severe/critical OHSS give LMWH. If moderate assess for other RFs.
- Mild OHSS affects around one third of cycles. Moderate or severe affects 3.1-8%.

Grading of OHSS

- Encourage fluid intake at least 1 litre daily. IV fluids if severe haemoconcentration, or if pt not tolerating oral fluids.
- In most women the condition resolves over a period of 7 - 10 days.
- Urine output of <1000 ml in 24 hours should prompt review. Or + fluid balance of >1000ml over 24 hours.
- HAS may be used as plasma volume expander. HAS 25% may be used in doses of 50-100g infused over 4 hours. And repeated 4-12 hourly.
- The incidence of thrombosis with OHSS: between 0.7 – 10%.
- Risks for OHSS: young, lean, PCOS, use of GnRH agonists, high oestradiol (>9000). HCG for lutueal support, more oocytes, prev OHSS, multiple preg. If large number of follicles and high serum oestradiol, then cancel cycle.
- Early OHSS is 7 days after HCG, late 10 days. Late more severe.
- Body weight, abdo girth, and fluid intake and output should be measured daily whilst inpatient, along with FBC, haematocrit, LFTs, electrolyes, osmolality.
- Surgery is only indicated in pts with OHSS if there is adnexal torsion, ovarian rupture.
- OHSS gives higher risk of PET (21%) PTB (36%).
• Universal screening not recommended, maternal request not an indication to screen.
• Women with GBS in previous pregnancy should be given the option of intrapartum abx (IAP) (benzylpenicillin) or testing in 35-37/40 or 3-5 weeks before expected delivery (and IAP if +).
• Offer IAP to all women with previous GBS affected baby.
• If GBS bacteruria identified during the current pregnancy then offer IAP.
• Method of IOL should not vary according to GBS status.
• Membrane sweep not contraindicated with GBS.
• If PROM at term, give IAP and start IOL.
• IAP is recommended for women in confirmed preterm labour, and for PPROM once labour is established.
• Water birth not contraindicated in GBS.
• For PPROM after 34/40 with GBS, it may be beneficial to opt for delivery with IAP rather than continue expectant management.
• Test for GBS by taking swabs from lower vagina and anorectum.
• If a patient declines IAP and is a known GBS carrier, the baby should be closely monitored for at least 12 hours.
• Special observations not needed for babies born to mothers who had IAP at least 4 hours prior to delivery.

Management for women at term, planning SVD
MANAGEMENT OF INHERITED BLEEDING DISORDERS OF PREGNANCY
GTG NO 71, APRIL 2017

- Check factor VIII/IX levels in female haemophilia carriers.
- Carriers are at risk of bleeding complications in pregnancy.
- Male neonates are at risk of bleeding peripartum.
- Carriers of severe haemophilia should be offered PIGD/fetal sex determination by cell free DNA testing/amniocentesis in 3rd trimester to help delivery decisions.
- Check maternal factor VIII / IX at booking and before any antenatal procedures, aim for factor VIII / IX levels at least 0.5 iu/ml to cover surgical or invasive procedures, or spontaneous miscarriage. If Rx required aim for levels of 1.0 iu/ml.
- Desmopressin can be used antenatally to raise factor VIII levels.
- ECV should be avoided in potentially affected male fetuses.
- Offer planned LSCS for affected males with potential severe haemophilia (39/40).
- In fetus potentially affected with mild haemophilia, FBS and FSE can be considered.
- Factor VIII and IX levels of >0.5 are needed for insertion and removal of epidural catheter.
- Avoid IM injections if factor VIII and IX levels are <0.5.
- Von Willebrands Disease:
  1: partial quantitative, 2: qualitative, 3: severe quantitative.
- VWF level should rise above 0.5 by term.
- Type 1 VWD with normal VWF levels can be managed in standard obstetric units.
- If considering invasive procedures, VWF or factor VIII levels than 0.5 women should receive haemostatic support with DDAVP or VWF-containing concentrates.
- If DDAVP used, then restrict fluid intake to 1L for 24 hours. Target peak levels should be 1.0 iu/ml.
- For fetuses at risk of type 2 or 3 VWD, FBS, ECV, fetal scalp monitoring, ventouse and midcavity forceps should all be avoided.
- Maintain factor VIII levels above 0.5 for at least 3 days following uncomplicated SVD and for 5 days following SVD. Consider tx acid for postpartum period.
- Pts with type 3 VWD may require treatment with VWF concentrate for 2-3 weeks or even longer after delivery.
- For neonates at risk of type 2 or 3 VWD, vitamin K should be given orally, unless VWF activity is shown to be normal.
- Neonates with type 3 VWD should be considered for routine cranial imaging.
- Factor IX deficiency is more common Ashkenazi community. But factor IX plasma have poor correlation with bleeding risk. Heterozygotes mostly asymptomatic.
- PPH-risk in factor XI deficient women is highest in homozygotes with blood group 0.
- Rx includes tranexamic acid, factor XI conc and FFP.
- In prothrombin (factor II deficiency), if factor 2 activity is <0.2 and significant bleeding, give prothrombin complex 20-40iu Kg. aim for factor 2 levels of 0.2 -0.4.
- If factor VII activity <0.2 in the 3rd trimester with bleeding, give factor VII 15-30 mcg every 4-6 hours for at least 3 0 5 fays after CS.
- If fibrinogen <0.5g litre consider prophylaxis during pregnancy with fibrinogen conc. 50-100mg/kg twice weekly. Epidural and IM injections should be avoided. Avoid rotational, midcavity, ventouse, FBS, FSE
MANAGEMENT OF BREECH PREGNANCIES
GTG NO 20b. MARCH 2017

- Breech is 3-4% at term. RFs: preterm, uterine anomaly, congenital anomaly, previous breech, nulliparity.
- Planned CS leads to a small decrease in perinatal mortality in breech pregnancies:

<table>
<thead>
<tr>
<th>Mode of Delivery</th>
<th>Perinatal Mortality</th>
</tr>
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<tbody>
<tr>
<td>ELSCS</td>
<td>0.5:1000</td>
</tr>
<tr>
<td>Cephalic SVD</td>
<td>1:1000</td>
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<tr>
<td>Vaginal breech</td>
<td>2:1000</td>
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</tbody>
</table>

*Perinatal mortality by Mode of Delivery*

- This lower perinatal mortality of LSCS is due to reduced still birth risk >39/40, reduced intrapartum risks, reduced vaginal breech risks.
- “Selection of appropriate pregnancies and skilled intrapartum care may allow for planned vaginal breech to be nearly as safe as planned vaginal cephalic delivery”.
- Increased risk of low apgars and serious short term neonatal complications: but breech vaginal delivery has not been shown to increase long-term morbidity.
- Planned CS carried a small increase in immediate maternal complications, and implications for future pregnancies, including an increased risk of stillbirth.
- Note high rate of CS in women with breech planning for SVD: 40% (29-45%).

*Prognostic factors suggesting less chance of successful vaginal breech delivery*

- If breech diagnosed in labour, women near or in active 2nd stage should not be routinely offered a CS.
- On admission to labour ward with breech and ?labour, advise USS Scan for hyperextended neck, legs and EFW and counsel accordingly.
- IOL not usually recommended.
- Augmentation only if contraction frequency is low with a working epidural, and advise continuous CTG.
- If CTG abnormal active 2nd stage: LSCS, unless buttocks visible or progress rapid.
- Not routine amniotomy as risk of prolapse.
- Birth in water not recommended.
• Birth position may be semi recumbent or on all fours.
• Allow breech to descend to perineum before active pushing.
• If breech is not visible within 2 hours of passive second stage: recommend LSCS.
• Delivery should be hands off.
• Signs that delivery of head should be assisted:
  o Poor fetal condition
  o Delay > 5mins from delivery of buttocks
  o >3mins from umbilicus to head.
• For twins, if twin 1 is breech planned LSCS is recommended.

Preterm breech:
• Routine CS in spontaneous preterm labour not recommended.
• If PTD is scheduled owing to maternal or fetal compromise – then recommend CS.
• Head entrapment if not fully dilated occurs in 14%, incision to cervix (2,6,10’o’clock) may be required.
Rate of spontaneous version to cephalic after 36/40: 8%.
Success: 60% multip 40% primip.
If unsuccessful only a few will turn spontaneously (3-7%).
If successful ECV, 3% revert back to cephalic.
Note increased risk of operative delivery even if ECV successful: 1.4 RR of instrumental, RR of CS 2.2 with ECV which is successful.

Factors associated with a successful ECV (OR in brackets)

- Use of regional anaesthesia not routine but consider for repeat attempt.
- CI to tocolysis is significant cardiac disease, HTN. Side effects: tachycardia and tremor.
- ECV advised in nullips from 36/40, others from 37.
- ECV can been done intrapartum if membranes intact.
- If unstable lie, consider stabilising IOL.
- Relative contraindications to ECV are abnormal dopplers, any absolute reason for CS, multiple pregnancy, rhesus isoimmunisation, vaginal bleeding, SROM.
- EmLSC risk 0.5% with ECV. (90% are for vaginal bleeding/abnormal CTG). abruption is rare (case reports).
- Preop preparation for CS is not recommended prior to ECV.
- Max is 4 attempts at ECV over 10 minutes.
- Rh neg women should be offered antiD and testing for FMH.
- EFM before and after (note transient bradycardia <3mins is common).
- Slight evidence for moxibustion at 33-35/40 RR 1.3 more likely to be cephalic
- Insufficient evidence for postural management alone.
- Don’t do ECV if bleeding during the previous week.
• Definition: pain perceived to be related to the bladder >for at least 6/12 and accompanied by at least 1 other urinary symptom e.g. urge to void or frequency.
• Prevalence 2-7%. Between 30-60% with chronic pelvic pain actually have BPS.
• Baseline Ix: bladder diary (freq / volume chart) should be completed.
• 3-day food diary may be used to id if specific foods cause a flare up.
• Rule out UTI. Investigations for urinary ureaplasma and chlamydia can be considered in symptomatic patients with negative urine cultures and pyuria.
• In those with urological malignancy – do cytology.
• Regular exercise can be beneficial.
• BPS is diagnosis of exclusion.
• Bladder biopsies and hydrodistension not recommended for diagnosis. Cystoscopy does not confirm or exclude diagnosis of BPS.
• Potassium sensitivity tests, urodynamic assessment and urinary biomarkers should not be used in the diagnosis of BPS. Consider urodynamics if coexisting BPS and OAB, which is unresponsive to Rx.
• To classify severity use a validated symptom score to assess baseline severity of BPS and assess response to Rx. E.g. King’s Health, EuroQol.
• Initial Rx: conservative management: avoid caffeine, alcohol, and acidic fatty foods and drinks. Regular exercise, relaxation techniques, can be beneficial.
• Oral amitriptyline or cimetidine may be considered if 1st line fail. Cimetidine is unlicensed and should only be commenced by a specialised clinician.
• If cons and oral Rx unsuccessful – consider intravesical lidocaine, hyaluronic acid, botox, DMSO, intravesical heparin, intravesical chondroitin sulphate. But these should only be considered after referral to a pain clinic and MDT discussion.
• Cytoscopic fulguration, laser treatment and trans-urethral resection of lesions can be considered if Hunner lesions are seen at cystoscopy. (Hunner lesions are well demarcated reddish mucosal lesions which usually bleed.)
• Neuromodulation (posterior tibial or sacral) may be considered after conservative, oral, or intravesical Rx has failed.
• Consider oral cyclosporine A after conservative, oral therapy, intravesical therapy or neuromodulation rx has failed. Adverse effects: HTN, gingival hyperplasia, facial hair
• Cystoscopy +/- hydrodistension may be considered if cons and oral Rx failed.
• Major surgery is last line.
• Long term Abx, intravesical res inferatoxin, intravesical bacillus calmette guerin, high pressure long duration hydrodistension and long term oral glucocorticoids are all not recommended for BPS.
• Referral to a physio should be considered as BPS symptoms may be improved with physical therapy. Consider psych referral. Give written info about support groups.
• BPS variably affected by pregnancy. Note intravesical heparin, oral amitriptyline safe in pregnancy.
BPS Management: proposed algorithm

3 day food diary, bladder diary, use lifestyle

Avoid caffeine, ETOH, acidic / fatty food, exercise relaxation therapy

Oral amitriptyline cimetidine (unlicenced)

Intravesical lidocaine, hyaluronic acid, botox, DMSO, heparin, chondroitin sulphate, ONLY AFTER PAIN CLinic / MDT

Neuro-modulation (posterior tibial or sacral) after cons, oral, intravesical therapy

Oral cyclosporin

Cystoscopy +/- hydro-distension

surgery
PMS symptoms should be recorded prospectively over 2 cycles using a symptom diary, as retrospective recall of symptoms is unreliable.

- A symptom diary should be completed by the pt. prior to commencing treatment.
- GnRH analogues may be used for 3/12 if symptom diary alone is inconclusive.
- Referral to a gynaecologist should be considered when simple measures (e.g. COC, vitamin B6, SSRI) have failed. MDT may be of benefit.
- CBT should be considered routinely.
- Drospirenone-containing COCs may be used. Consider running back to back.
- Percutaneous estradiol combined with cyclical progestogens has been shown to be effective for severe PMS. (Also use barrier or intrauterine methods of contraception).

- When using transdermal estrogen to treat PMS – lowest possible dose of progesterone should be used to minimise progestogenic side effects.
- Micronised progesterone is less likely to reintroduce PMS type symptoms – and should therefore be 1st line for progestogenic opposition.
- If using percutaneous estradiol, a cyclical 10-12/7 course of PO or vaginal progesterone or the mirena should be used to prevent hyperplasia).
- When treating PMS using estradiol, inform women there’s insufficient data to advise on long-term effects on breast and endometrial tissue.
- Danazol (200 mg bd) is effective in luteal phase for breast symptoms but potentially virilising effects. Should be used with effective contraception (teratogenic).
- GnRH analogues are very effective for severe PMS. Can be used to help diagnosis – if this is unclear from 2/12 charting. If >6/12 give add back (HRT or tibolone). Women on long term Rx should have BMD every year. Stop if BMD declines significantly.
- Mirena shouldn’t be used alone for Rx. Progesterone alone not appropriate.
- SSRIIs considered 1st line for severe PMS – either luteal phase or cont. dosing. Nausea, insomnia, somnolence, fatigue, lower libido all side effects reported with SSRI. Luteal phase dosing only may minimise these effects.
- PMS will abate in pregnancy – so stop SSRIs prior to pregnancy.
- Spironolactone can be used in women with PMS to treat physical symptoms.
- Hysterectomy and bilateral oophorectomy has been shown to be of benefit. Consider only when medical Rx failed, or other gynaec conditions indicate surgery. GnRH analogues should be given pre-op as a test of cure and to ensure HRT is tolerated.
- HRT should be given for these operative pts who are <45.
- When treating women with severe PMS, endometrial ablation and hysterectomy with conservation of the ovaries is not recommended.
- Bilateral oophorectomy alone (leaving uterus), will necessitate the use of a progestogen as part of any subsequent HRT regimen (and this carries risk of re-introducing PMS like symptoms).
- 40% of women get PMS, of these 5-8% will have severe PMS.
- The Daily Record of Severity of Problems (DRSP) is best for recording symptoms.
Investigating and classifying PMS

First line
Exercise, cognitive behavioural therapy, vitamin B6
Combined new generation pill (cyclically or continuously)
Continuous or luteal phase (day 15–28) low dose SSRIs, e.g. citalopram/escitalopram 10 mg

Second line
Estradiol patches (100 micrograms) + micronised progesterone (100 mg or 200 mg [day 17–28], orally or vaginally) or LNG-IUS 52 mg
Higher dose SSRIs continuously or luteal phase, e.g. citalopram/escitalopram 20–40 mg

Third line
GnRH analogues + add-back HRT (continuous combined estrogen + progesterone [e.g. 50–100 micrograms estradiol patches or 2–4 doses of estradiol gel combined with micronised progesterone 100 mg/day] or tibolone 2.5 mg)

Fourth line
Surgical treatment ± HRT

Management algorithm for PMS
PREVENTION AND MANAGEMENT OF POSTPARTUM HAEMORRHAGE
GTG NO 52, DECEMBER 2016

- Uterine massage is of no benefit in prophylaxis of PPH.
- Prophylactic uterotonics should be routinely offered for 3rd stage of labour.
- For women without PPH RFs, with SVD, give oxytocin 10iu IM or 5IU if del by CS.
- Syntometrine may be used in the absence of HTN in women at increased risk of haemorrhage as it reduced the risk of minor PPH.
- For women at inc. PPH risk, a combination of preventative measures may be superior to syntocinon alone to prevent PPH.
- Consider IV tx acid (0.5-1.0) plus oxytocin at CS to reduce EBL in high risk women.
- Minor PPH= 500–1000ml > alert first line obstetric and anaesthetic staff.
- If > 1000ml MDT should be summoned to assess woman.

**Initial management of minor PPH**

- Measures for major PPH (>1000ml) and continuing to bleed or shock
  - ABC
  - Keep pt flat
  - Keep warm
  - Transfuse blood if clinically required
  - Until blood available infuse up to 3.5L of warmed clear fluid (up to 1.5L colloid).
- Cell salvage intra-operatively should be considered for PPH with LSCS.
- If no haemostatic results are available and bleeding is continuing then after 4 units of RBC, FFP should be infused at 12-15ml/kg
- If no haemostatic tests available, early FFP should be considered if suspected coagulopathy, e.g. with abruption or AFE, or if detection of PPH has been delayed.
- If PT/APTT is >1.5L and haemorrhage ongoing, give FFP at greater rate than 15/ml per kg and order early.
- Plasma fibrinogen of >2 g/l should be maintained. Give 2 pools cryo if less than this.
- Transfuse platelets if <75.
- Consider tranexamic acid if major PPH.
- Routine RG VIIa not recommended.
Management of major PPH

- In if pharmacological methods fail to correct atony, initiate surgical interventions.
- Balloon tamponade usually 1st line surgical Rx. Avoids hysterectomy 90% of cases.
- Resort to hysterectomy sooner rather than later (esp in accreta, uterine rupture).
- In secondary PPH, assess with HVS and swabs. ?antimicrobials for endometritis.
- Pelvic USS may help exclude RPOC.
- PPH > 1500ml should be subject of formal review.

**Risk Factors for PPH**

- Multiple pregnancy OR 3.3
- Previous PPH 3.6
- PE 5.0
- Macrosomia 2.1
- FTP 3.4-1.9
- Long 3rd stage 7.6-2.6
- Retained placenta 7.8-3.5
- Episiotomy 4.7-1.7
- GA 2.9

- Maintain HB antenatally (>11 at booking >10.5 at 28/40). Anaemia: greater PPH risk.
- Active management cuts risk of EBL >1000 ml by RR 0.34 (Cochrane review).
- Tx acid reduces ebl >1 in women who had undergone CS (RR 0.43), but not SVD.
- An SBP <80 with tachycardia, tachypnoea indicates PPH >1500. Pulse and BP usually well maintained until EBL >1000 ml.
- Synotometrine assoc with 5x rate of HTN, N&V compared to syntocinon.
- Oxytocin superior to miso for prevention of PPH.
- Cell salvage seems to reduce risk of transfusion by 21%. 
A stepwise approach for correcting atony.

- Stepwise approach for atony: rub up contraction, empty bladder, oxytocin 5IU slow IV, ergometrine 0.5 mg IM or slow IV, synto infusion 40 IU 125 mls hour, carboprost 0.25 max 8 doses every 15mins, 800 mcg prostaglandin sublingually
- Cochrane review: gentamicin and clindamycin appropriate for RPOC post partum
**ENDOMETRIOSIS**

**NICE GUIDELINE (Number 73, 2017)**

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**Suspect endometriosis** (including in young women aged 17 and under) with 1 or more of:
- chronic pelvic pain
- period-related pain (dysmenorrhea) affecting daily activities and quality of life
- deep pain during or after sexual intercourse
- period-related or cyclical gastrointestinal symptoms, in particular, painful bowel movements
- period-related or cyclical urinary symptoms, in particular, blood in the urine or pain passing urine
- infertility in association with 1 or more of the above.

**Assess women's individual information and support needs**
Take into account their circumstances, symptoms, priorities, desire for fertility, aspects of daily living, work and study, cultural background, and their physical, psychosocial and emotional needs.

**Also:**
- discuss keeping a pain and symptom diary
- offer an abdominal and pelvic examination to identify abdominal masses and pelvic signs
- consider an ultrasound scan (see page 2).

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**Be aware that endometriosis can be a long term condition and can have a significant physical, sexual, psychological and social impact. Women may have complex needs and may require long-term support.**

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**Initial management:**
Offer initial management with:
- a short trial (for example, 3 months) of paracetamol or a non-steroidal anti-inflammatory drug (NSAID) alone or in combination
- hormonal treatment (combined contraceptive pill or a progestogen)
- refer to the NICE guideline on neuropathic pain for treatment with neuromodulators.

**If fertility is a priority,** the management of endometriosis-related subfertility should have multidisciplinary team involvement with input from a fertility specialist. This should include recommended diagnostic fertility tests or preoperative tests and other recommended fertility treatments such as assisted reproduction.

Also see **Fertility is a priority** on page 2.

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**Consider referral to a gynaecology, paediatric & adolescent gynaecology, or specialist endometriosis service** (endometriosis centre) if:
- a trial of paracetamol or NSAID (alone or in combination) does not provide adequate pain relief
- initial hormonal treatment for endometriosis is not effective, not tolerated or is contraindicated.

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**Consider referral to a gynaecology service:**
- for severe, persistent or recurrent symptoms of endometriosis
- for pelvic signs of endometriosis, or
- if initial management is not effective, not tolerated or is contraindicated.

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**Refer women to a specialist endometriosis service** (endometriosis centre) if they have suspected or confirmed deep endometriosis involving the bowel, bladder or ureter.

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**Consider referring young women (aged 17 and under)** to a paediatric & adolescent gynaecology service, gynaecology service or specialist endometriosis service (endometriosis centre), depending on local service provision.
Do not use pelvic MRI or CA-125 to diagnose endometriosis.

Consider transvaginal ultrasound:
- to investigate suspected endometriosis even if pelvic and/or abdominal examinations are normal
- for endometriomas and deep endometriosis involving the bowel, bladder or ureter.

Consider a transabdominal ultrasound scan of the pelvis if a transvaginal scan is not appropriate.

Do not exclude the possibility of endometriosis if the abdominal and/or pelvic examinations or ultrasound or MRI are normal.

Consider referral for assessment & investigation if clinical suspicion remains or symptoms persist.

Consider laparoscopy to diagnose endometriosis, even if the ultrasound was normal.

Discuss surgical management options with women with suspected/confirmed endometriosis:
- what laparoscopy involves, and that it may include surgical treatment (with prior patient consent)
- how laparoscopic surgery could affect endometriosis symptoms
- the possible benefits and risks of laparoscopic surgery
- the possible need for further surgery, including the possible need for further planned surgery for deep endometriosis involving the bowel, bladder or ureter.

During diagnostic laparoscopy, a gynaecologist with training and skills in laparoscopic surgery for endometriosis should perform a systematic inspection of the pelvis.

If a full systematic laparoscopy is performed and is normal, explain to the woman that she does not have endometriosis and offer alternative management.

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**If fertility is a priority**

- Offer excision or ablation plus adhesiolysis to women with endometriosis not involving bowel, bladder or ureter.
- Offer laparoscopic ovarian cystectomy to women with endometriomas.
- Discuss the benefits and risks of laparoscopic surgery for deep endometriosis involving the bowel, bladder or ureter. This may include:
  - effect on the chance of future pregnancy
  - the possible impact on ovarian reserve
  - the effect of complications on fertility
  - alternatives to surgery
  - other fertility factors.
- Do not offer hormonal treatment to women with endometriosis who want to conceive.
- Consider outpatient follow-up for:
  - deep endometriosis involving the bowel, bladder or ureter, or
  - 1 or more endometrioma larger than 3 cm.

**If fertility is not currently a priority**

- During diagnostic laparoscopy consider laparoscopic treatment of (if present):
  - peritoneal endometriosis not involving the bowel, bladder or ureter
  - uncomplicated ovarian endometriomas.
- Consider excision rather than ablation to treat endometriomas.
- For deep endometriosis involving the bowel, bladder or ureter, consider:
  - pelvic MRI before operative laparoscopy
  - 3 month course of GnRHa before surgery.
- Consider hormonal treatment after laparoscopic excision or ablation.
- If hysterectomy is indicated:
  - excise all visible endometriotic lesions at the time of hysterectomy
  - discuss with the woman what a hysterectomy is, its risks & benefits, related treatments and likely outcome.
Offer either prophylactic progesterone or cerclage to women with a hx of spontaneous preterm birth (PTB) or mid trimester loss (16-24/40) and in those who have a TVUS between 16 and 24/40 which shows cervical length <25 mm.

Offer prophylactic progesterone to women with no hx of PTB in whom a TVUS (16–24/40) shows cx length <25 mm.

Consider cerclage for women with <25 mm cx (16-24/40) and who have had preterm prelabour ROM previously, or hx of cervical trauma.

In women with a history or suggestive of PPROM, if there is obvious pooling of liquor do not perform diagnostic test. If pooling not observed, consider tests

Offer erythromycin 250 mg qds for up to 10 days – or until established labour (consider oral penicillin if allergy) if PPROM.

Do not offer women with PPROM augmentin.

Do not offer rescue cerclage if signs of infection, active bleeding, contractions, but consider if dilated cervix and unruptured membranes between 16-28/40.

If suspected preterm labour (PTL) and >30/40 consider TVUS to measure cervical length. If cervical length is >15 mm, PTL very unlikely. If <15 mm describe as PTL.

Consider FFN if >30/40. Do not use TVUSS and Cx length in combination with FFN.

If evidence of bleeding / infection, do not use tocolysis.

Consider tocolysis in those who have intact membranes between 24–25+6 weeks.

Offer tocolysis between 26–34/40 in those with intact membranes and ?PTL.

If nifedipine is contraindicated offer oxytocin receptor antagonists.

Don’t give steroids prior to 23/40, consider between 24–26 weeks.

Offer steroids between 26-33+6.

Consider between 34-36.

Nifedipine is first line for tocolysis. 2nd line is oxytocin receptor antagonists.

Give MgSO4 between 24 and 30 weeks, in either established preterm labour or when delivery is planned over next 24 hours.

Consider MgSO4 30-34 weeks.

Dosing MgSO4: Give 4g bolus over 15 mins, then IV infusion of 1g/hour until birth or for 24 hours.

Whilst on MgSO4, record at least 4 hourly obs. If oliguria/renal compromise consider reducing dose of MgSO4.

Offer women in established PTL but with no other risk factors either CTG or intermittent auscultation.

Don’t use FSE is <34/40 (unless absolutely clear benefits outweigh risks).

Don’t do FBS if <34/40.

Consider CS for women presenting 26-36+6 with breech infant.

If preterm birth baby is stable wait at least 30 secs (but no longer than 3 mins) before clamping the cord if mum and baby are stable.
Give MgSO4 between 24 and 30 weeks, in either established preterm labour or when delivery is planned over next 24 hours.

Consider MgSO4 30-34 weeks

Whilst on MgSO4, record at least 4 hourly obs. If oliguria/renal compromise consider reducing dose of MgSO4.

Dosing MgSO4: Give 4 g bolus over 15 mins, then IV infusion of 1 g/hour until birth or for 24 hour tocolysis.

Nifedipine is 1st line

Not for tocolysis is evidence of bleeding / infection

Consider tocolysis in those who have intact membranes between 24–25+6 weeks.

Offer tocolysis between 26–34/40 in those with intact membranes and ?PTL.
12% women have depression during pregnancy. 13% suffer from anxiety.
15-20% have anxiety / depression in first year following delivery.
Postpartum psychosis affects 1-2/1000. By definition occurs within 3/12 of delivery.
Women with bipolar disease (BPD) have a 1 in 4 risk of severe recurrence – very high risk of postpartum psychosis (PPP) if BPD and FHx of PPP.
Primiparity is a RF for PPP. Vast majority have onset within 2 weeks. Delusions and hallucinations, mood symptoms, bewilderment.
Baby blues – 30-80% of births. Occurs during first weeks.
Depression should be screened for at each AN visit and postpartum. Consider GAD2 scale to assess symptoms.
If woman taking lithium, measure levels every 4 weeks. If a woman takes lithium becomes pregnant and is high risk, consider switching gradually to an antipsychotic, stopping lithium and restarting it in the second trimester, or continue with lithium if at high risk of relapse and other antipsychotics unlikely to succeed.
Lithium has a risk of cardiac malformation e.g. ebstein's anomaly.
If women is well, consider stopping lithium over 4 weeks, but advise that this may not remove risk of fetal heart malformation.
If a woman scores 3 or more on the GAD 2 scale consider using the GAD 7 scale.
If a woman scores less than 3 on the GAD 2 scale still consider doing GAD 7 scale
PHQ-9 or EPDS may be used to screen for depression.
If ETOH misuse: screen with Alcohol Use disorders Identification test (AUDIT).
For a woman with persistent subthreshold depressive symptoms, or mild / mod depression consider facilitated self help.
If hx of severe depression, and in a patient who initially presents with mild depression in pregnancy or in the postnatal period, consider a TCA, SSRI SNRI.
If moderate or severe depression, consider high intensity CBT, a TCA, SSRI, SNRI if the woman understands the risks associated with medication.
If a woman is taking TCA, SSRI, SNRI for mild to moderate depression consider stopping medication gradually during pregnancy if patient is well.
Low level anxiety in pregnancy should be considered for CBT-type help.
Consider psychological intervention for a woman with psychosis or schizophrenia.
Offer an antipsychotic for bipolar disorder.
If a bipolar woman becomes manic on medication, then check the dose of the prophylactic medication, and consider increasing, suggest another antipsychotic, then consider lithium, then ECT if no response to lithium.
If rapid tranquilisation required the woman should not be secluded afterwards.
Women with PTSD: advise CBT, or eye movement desensitisation and reprocessing.
Encourage breastfeeding unless carbamazepine, clozapine, lithium.
Screen for DM/GDM if BMI>30, prev baby >4.5, prev GDM, 1st deg relative, ethnic minority with high prevalence.

Prevalence of diabetes in pregnancy is around 5%. 87% are GDM. 7.5% T1 and 5% T2.

Advise women with diabetes planning to get preg: maintain fasting glucose 5-7 and plasma levels 4-7 before meals (these are the normal recommended ranges).

Diagnose GDM if fasting plasma 5.6 or above. Or with a 2-hour glucose of >7.8.

For any diabetes in pregnancy advise following target BMs: fasting BM levels <5.3, and 1 hour after meals <7.8, 2 hours after < 6.4.

At booking, offer retinal assessment for women with pre-existing diabetes unless the woman has been assessed in the last 3 months.

Offer renal assessment for women with pre-existing diabetes if this has not been done in the last 3/12.

Arrange joint clinics every 1–2 weeks for these patients.

Offer self-monitoring or OGTT ASAP when there’s a history of previous GDM.

Offer retinal assessment at 16–20 weeks to women with pre-existing diabetes if diabetic retinopathy was present at their first ANC.

Diabetes patients should have fetal heart check around 20 weeks.

Growth scans at 28/40, 32/40, 36/40.

Advise women with uncomplicated GDM to give birth no later than 40+6 weeks.

T1 or T2 advise to deliver 37–38 & 6/40.

Offer fasting glucose 6–13 weeks post-partum to exclude diabetes.

Diabetics should take folic acid 5mg until 12 weeks.

Offer women with T1 DM planning to become pregnant blood ketone testing strips and meter, advise them to test for ketonaemia if they get hyperglycaemic or unwell.

Aim for target hbaA1c 6.5% (48) prior to pregnancy.

If HbA2c is a 10% (86) or above, advise not to get pregnant.

Use isophane insulin as the first choice for long acting insulin during pregnancy. Consider continuing treatment with long acting insulin analogues with diabetes.

If renal assessment is abnormal preconception (if ACR > 30, or gfr < 45, or creat >120) then refer to nephrologist.

If glycosuria 2+ or 1+ on 2 or more occasions consider further test to exclude GDM.

All women should be referred to a dietician.

Advise regular exercise – such as walking for 30 mins after a meal.

Offer metformin to women with GDM if BM targets are not met with diet/exercise changes within 1–2/52, then start insulin if targets still not met.

If fasting glucose >7.0 then offer insulin Rx immediately (with or without metformin).

Consider immediate Rx with insulin if fasting plasma glucose 6 – 7 if there are complication such as macrosomia or hydramnios.

Consider glibenclamide if women decline insulin and are started on metformin. Or for those who can’t tolerate metformin.

If on insulin, advise testing fasting, pre-meal, 1-hour post meal, and bedtime BM.

Advise pregnant women with T2 DM or GDM to test their fasting and 1-hour post meal BM in pregnancy if they are on diet and exercise therapy or taking oral therapy.

If on insulin aim to maintain capillary glucose level above 4.

Measure HbA1c in all pregnant women with pre-existing DM at booking appointment.

Measure HbA1c levels in all women with GDM at the time of diagnosis to identify those who may have pre-existing type 2 diabetes.
Advise women with insulin treated diabetes on risks of hypoglycaemia and possibility of impaired awareness of hypoglycaemia in pregnancy esp in first trimester.

They should have always have on hand a fast acting glucose drink.

Offer pump therapy if adequate BM control is not achieved with multiple daily injections, or if they have problematic severe hypoglycaemia.

T1DM women should have blood ketone test strips and meter, advised on their use.

Advise pregnant women with T2DM or gestational diabetes to seek urgent medical advice if they become hyperglycaemic or unwell.

Ensure that women who have pre-proliferative diabetic retinopathy or any form of referable retinopathy diagnosed during pregnancy to have ophthalmological follow up.

Should be USS monitoring of women with DM every 4 weeks from 28 to 36 weeks.

In women with insulin treated diabetes who are receiving steroids for fetal lung maturity – additional insulin will be required.

If GA is used monitor BM every 30 mins from induction until after birth and until the woman fully conscious.

Monitor BM every hour in labour: aim BM between 4–7.

If BM greater than this consider sliding scale in labour.

BM testing should be carried out on neonate 2–4 hours after birth.

Do not transfer out until at least 24 hours post delivery.

Women with diabetes should feed babies ASAP after birth (within 30 mins) aim to maintain capillary glucose at a min of 2.0. If below 2.0 on 2 occasions then additional measures may be required.

Hypoglycaemia is more of a risk postpartum.

Test glucose in GDM women before transfer out of hospital.

If, postnatally, women have a fasting glucose >7 likely they have T2 DM.

Women with GDM previously should have annual HbA1c.

If fasting glucose <6 postnatally we can say these women do not have T2 DM, but still at higher risk, if between 6–7 they are very high risk of T2 DM.

If HbA1c >6.5 (48) then diagnose T2DM.

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**Mannual on Diabetes in Pregnancy**

- **Diagnosis and management of diabetes in pregnancy**
  - **OGTT** if BMI>30, prev baby >4.5, prev GDM, 1st deg relative with DM, minority group with high prevalence
  - Diagnose GDM if fasting BM >5.6, or 2-hour BM >7.8
  - For any diabetes in pregnancy advise following targets: fasting BM<5.3, 1 hour after meals <7.8, 2 hours < 6.4
  - IF fasting glucose >7.0 then offer insulin Rx immediately (with or without metformin)
  - IF T1 or T2 advise to deliver 37-38&6/40. hour
  - Uncomplicated GDM to give birth no later than 40+6 weeks
**Investigations**
- FBC, test for coagulation, TFTs if history suggestive
- Offer outpatient hysteroscopy if IMB or risk factors for endometrial pathology
- Obtain an endometrial sample only in context of hysteroscopy (don’t offer blind endometrial biopsy to women with HMB)
- Offer TVUS if suspected adenomyosis, larger fibroids

**Treatment**
- LNG IUS (Mirena) 1st line if no pathology, fibroids <3 cm, not distorting cavity, or if there is suspected adenomyosis. If offering Mirena, suggest it’s advisable to wait for at least 6 cycles
- If not Mirena: tranexamic acid, NSAIDs or combined oral contraception, oral progestogens
- If this is unsuccessful consider surgical options: ablation, hysterectomy

**HMB & Fibroids**
- For women with submucosal fibroids, consider TCRF
- If >3 cm diameters, Mirena may still be considered, depending on location of myoma
- Consider hormonal therapy, oral combined contraception, cyclical oral progestogen
- Consider UAE, with possible MRI to map fibroids, myomectomy, hysterectomy
CONSENT ADVICE: SURGICAL MANAGEMENT OF MISCARRIAGE AND REMOVAL OF PERSISTENT PLACENTAL OR FETAL REMAINS
Consent Advice No. 10 (Joint with AEPU) January 2018

- Offer either MVA or surgical management in theatre under GA, as clinically appropriate.
- The proposed procedure should be called 'surgical removal of retained pregnancy tissue under general or local anaesthetic'.
- **Risks:**
  - Heavy bleeding warranting transfusion 0-3 in 1000 (uncommon)
  - Infection 40 in 1000 (common)
  - Need for repeat surgery 3-18 in 1000
  - Retained tissue following procedure up to 40 in 1000 (common)
  - Risk of intrauterine adhesions 16.3-18.5%, but risk following any type of management (spontaneous, expectant, medical, surgical) is 19%. No difference in long term fertility outcomes irrespective of management options
  - Risk of perforation up to 15 in 1000. (uncommon)
  - Significant cervical trauma: less than 1 in 1000.
- **Extra procedures:** laparoscopy / laparotomy to diagnose / repair organ injury.
  - NB: conservative measures with antibiotics and observation likely sufficient if perforation occurs with a dilator or a curette. If it occurs with larger instruments / suction curette or if there is significant bleeding then laparoscopy should be done.
- Explain possible alternatives – including medical and expectant management.
- Explain the procedures around sensitive disposal of fetal tissues, and explain disposal choices to women.