Gynaecology workshop
Metro North GP Alignment Program

Saturday, 18 February 2017
Skills Development Centre, Royal Brisbane and Women’s Hospital

Chronic pelvic pain and Endometriosis

Dr David Baartz
Clinical lead Gynaecology
RBWH
Chronic Pelvic Pain - Definition

- Chronic Pelvic Pain (CPP)
  - Menstrual or nonmenstrual pain of at least 6 months’ duration that occurs below the umbilicus and is severe enough to cause functional disability or require treatment.

- It is a symptom, not a disease
CPP - Etiology

- Gynaecological
  - Endometriosis, PID, adenomyosis, ovarian adhesions, residual ovary syndrome

- Gastrointestinal
  - Irritable bowel syndrome

- Urinary
  - Interstitial cystitis

- Surgical
  - Chronic appendicitis, adhesions, diverticulitis
CPP - Etiology

- Mental Health Issues
  - Somatization
  - Narcotic Abuse
  - Physical and Sexual Abuse
  - Depression

- Fibromyalgia / Musculoskeletal

- Neuropathic
  - Nerve entrapment and scar

- Combination of Factors
  - Both physical and mental factors
Mental Health Issues

- Many women with CPP also have significant mental health problems
- Somatization = multiple physical complaints “not fully explained by a known general medical condition”
Mental Health Issues

- Narcotic Abuse – chronic narcotic use with dependence issue (best managed in a chronic pain unit)
- Physical and Sexual Abuse – seen in up to 25% of women with CPP
Mental Health Issues

- Depression
  - Both depression and CPP are disorders of high prevalence in young women
  - Not clear if CPP and depression are causally related
  - Psychological factors do impact on tolerance level of pain
  - Sleep disorder is common
Fibromyalgia

- May present initially as CPP
- Definition – poorly characterised disorder with substantial overlap with chronic fatigue syndrome, depression, somatization and irritable bowel syndrome
- Pain in all 4 quadrants of the body
- At least 11 separate areas of tenderness to palpation
Irritable Bowel Syndrome

- GIT syndrome characterised by chronic abdominal pain and altered bowel habits in the absence of any organic cause
- Approx. 10% of population
- Female : male is 2:1
- Dx based on history (physical exam unremarkable)
- Treatment is dietary, antispasmodics (eg. Colofac), laxatives / antidiarrhoeal
Interstitial Cystitis

- Characterised by:
  - Urinary urgency
  - Bladder discomfort
  - A sense of inadequate emptying of bladder
  - Dyspareunia often present

- Cystoscopy shows terminal petechiae on emptying bladder (biopsy shows plasma cells)

- Treatment is unclear
Diagnosis of CPP

- HISTORY
  - Complete hx including all the above systems and social and psychological hx very important
  - Characteristics of the pain (location, nature, temporal pattern, precipitating factors eg menstruation, exertion, coitus, relationship to urinary and bowel function)
  - Post surgical adhesions (may be exacerbated by movement or exercise)
Diagnosis of CPP

**EXAMINATION**

- Endometriosis: uterosacral ligament findings (nodularity, thickening, tenderness); POD nodules
- Adnexal masses
- Uterine tenderness
- Abdominal / scar tenderness
Diagnosis of CPP

- INVESTIGATIONS
  - MSU
  - HVS / endocervical swab
  - Ultrasound
  - Blood tests
  - Laparoscopy
  - Colonoscopy
  - Cystoscopy
Management of CPP

- When all investigations negative, management depends on the likely cause of symptoms and in pain control
- E.g. Irritable bowel, psychosomatic etc.
- Referral to other specialties
- MULTIDISCIPLINARY PAIN CLINIC (pain specialists, psychologists, psychiatrists, social workers, allied health workers etc.)
Endometriosis - Definition

- Presence of:
  - Endometrial glands
  - Endometrial stroma
  - Haemorrhage
  - +/- fibromuscular hyperplasia
  - outside the endometrial cavity and uterine musculature
Prevalence

- Unclear
- 1 – 7 % @ sterilization
Endometriosis - Aetiology

- Implantation theory (Sampson 1926)
- Metaplasia theory
- Invagination theory for endometrioma
- Rectovaginal disease (adenomyotic nodules)
- Stem cell theory
- Familial predisposition
Associations

**Increased Incidence**
- Infertility
- Nulliparity
- Low BMI
- Mullerian anomalie
- Prolonged menses

**Decreased Incidence**
- Multiparity
- Lactation
- Late menarche
Endometriosis - Symptoms

- Dysmenorrhoea
- Dyspareunia
- Dyschezia
- Time off work because of severe pain
- Urinary symptoms
- Limited relief with NSAIDs / COCP
- Haematoschezia
- Asymptomatic
- Association with Infertility
Origin of Pain

- Inflammatory / pain mediators
- Neuropathic pain
- Stage of Endometriosis not necessarily correlated with degree of symptoms
Physical Findings

- Tenderness
- Thickening / nodules u/s, PoD
- Fixed mass, retroversion
- Nil findings
Differential Diagnosis

- IBS
- PID
- Interstitial cystitis
- Adenomyosis
- Other bowel disorders eg. Inflammatory bowel disease (consider colonoscopy)
- Psychological factors
- Chronic pelvic pain with no specific aetiology
Investigations

- USS, (endometrioma ...typical ground-glass appearance)
- Ca125
- MRI
- Colonoscopy
- Laparoscopy = gold std for diagnosis
Classification

• Stage 1 - Minimal
  2 - Mild
  3 - Moderate
  4 - Severe
Endometriosis - Management

• **3 indications:**
  - Pain
  - Infertility
  - Adnexal mass

• **2 modes:**
  - Medical therapy
  - Surgical therapy
Medical Therapy

- Good for pain relief, no improvement in fertility
  - Simple analgesics and NSAIDS
  - COCP (esp tricycling)
  - Progestins (Provera, DPMA)
  - Danazol
  - GnRH analogues

- Mirena
- Implanon
- Oestrogen dependent condition
- Progestins induce atrophy of implants
Medical Treatment - the evidence

- Suppression of ovarian function for 6/12: significant reduction in (E) assoc. pain (Level 1a evidence)
- All drugs equally effective
- Level 1a (systematic review & meta-analysis of RCTs) (highest level of evidence)
- High recurrence of pain after cessation
Medical Treatment - the evidence

- Medical Treatment does NOT enhance fertility (Level 1a)
- Medical Treatment does not diminish endometriomas or adhesions
Hormones – Side effects

- Progestogens (weight gain, fluid retention, mood disturbance, BMD? In long term)
- GnRH (up to 6/12 use, BMD, add back therapy)
- Danazol (weight gain, androgenic effects)
Indications for Surgical Treatment

- Pain / Symptomatic
- Infertility
- Adnexal mass
Surgical Therapy

- **Laparoscopic Management**
  - Mainstay of treatment
  - Excision of lesions especially invasive plaques, endometriomas, nodules
  - Severe rectovaginal disease may involve bowel resections

- Non conservative surgery may involve pelvic clearance

- RCTs → significant pain relief and improvement in fertility
Post op Medical Treatment

- Does NOT produce a significant reduction in pain recurrence at 12 or 24 months, and has no effect on disease recurrence (Cochrane review; Level 1a) (Therapy up to 6/12 months)

- However, if incomplete surgery, may need prolonged medical therapy
Mirena Post-op

- Small RCT
- Mirena post-op, significantly reduced recurrent mod/severe dysmen & dyspar at 12 month follow-up
- 40 parous women ...stage 3/4 disease
- At 1yr f/u....2/20 mirena gp
- 9/20 expectant gp had mod/severe dysmen
- Bone sparing
Laparoscopic excision
Pain relief

- Minimal-Moderate disease
  - decreased pain @ 6/12 post-op
    (Evidence Level 1b)
    i.e. At least 1 RCT
  - smallest effect seen in minimal disease
  - no role for LUNA
Stage 4 Disease /DIE

- Absence of good study
- Expert Committee (ESHRE) :
  In D.I.E. removing all lesions decreases pain
  *2 trials
    lap abln+luna Vs diag lap(large % stage 1)
    lap e/o E Vs diagnostic lap (stage 2-4)
Significant reduction in pain @ 6/12 :
  (63% Vs 23% ; 80% Vs 32% )
Definitive Surgery

- Hysterectomy + e/o implants +/- USO, BSO
- Incapacitating symptoms
- Mod-severe disease
- Co-existing pathology eg. Adenomyosis
- Other options eg DMPA
- Try to conserve ovaries, if possible
Conserve in younger women

BSO when extensively damaged, or near menopause

HRT after BSO

- risk of Endo recurrence with oestrogen alone <5%
- slight risk malignancy with oestrogen alone
- progesterone has deleterious effect on breast cancer risk
Endometriosis-associated Infertility

- Infertility:
  - ovulatory, tubal, male factors) 75%
  - unexplained 25% (endometriosis 40 – 50 %)

- Treatment:
  - surgical excision
  - assisted reproduction
Mechanisms of Infertility

- Controversial
- Production of “hostile” inflammatory chemicals (prostaglandins, cytokines etc.)
- Anatomic distortion in severe disease
Evidence from RCTs

- Minimal/Mild: Abl/Excision – “improves fertility and is cost effective”
- (Level 1a Evidence)
• Efficacy of surgery not proven in RCTs
• Observational studies support surgery (Adamson 1994, Lee 1986)
• Excision DIE may improve IVF preg rates (Bianchi et al, 2009)
• Major benefit = sooner post-op
• Repeat surgery usually not beneficial
• If surgery unsuccessful, ? IVF
Endometrioma

- Removal for
  - Pain/Sympt control
  - Exclude malignancy
  - Prevent complications
Lap e/o cyst with attention to detail to preserve normal ov tissue (Gd 1A)
  (“stripping” rather ablation)
Recurrence rate 30% 2-5 yrs
Endometrioma – Risk of Malignancy

- Complex cyst
- USS – Ground glass appearance
- Ca125 often > 100
- Independent risk factor for epithelial ov cancer (incidence ratio 1.3-4.2 over 11yr)
- Clear cell, endometrioid cancer
- Complex atypia
Endometriomas prior to IVF

- Controversial
- ESHRE Special Interest Group 2005
  - recommend lap ov cystectomy, >4cm
    (to confirm histol, improve access to follicles, ?improve ov response)
- Concern is loss of follicles
- Meta-analysis 5 studies (surgery to no Tx found no diff in preg rates) Fert/Steril 2006
- Poorer response to FSH
Case Study 1

- 21yo
- G1P0M1
- Referral letter from GP
  - “Please review this lady with pelvic pain and hx of 4 laparoscopies in Tasmania for endometriosis”
Case Study 1 (cont.)

- **Past Hx**
  - CIN with LLETZ at age 16
  - Endometriosis x4 laparoscopies in Devonport, Tasmania
  - Ovarian cyst
  - Colonoscopy / IVP / CT / USS all normal
  - Move to QLD in 2003
  - Suffers dysmenorrhea, dyspareunia, non cyclic pelvic pain
  - Therapy includes NSAIDS, Tramal, Nurofen Plus, DMPA in past
Other symptoms:
- Difficulty swallowing veges (regurgitation)

PSHx:
- LLETZ
- D&C age 16 for miscarriage
- Laparoscopies x4
- T’s + A’s
- Fractured leg age 3
Case Study 1 (cont.)

- FH: Strong cardiac hx
- Social Hx: After school care 3-4 hrs per day; Part time work in bindery; Supercheap Auto warehouse
- Cigs 6/day since age 16
- Cannot drink alcohol
- Proceed to laparoscopy → normal
Case Study 1 (cont.)

- Post op review 6 months later
  - Not well
  - “In pain all the time”
  - Tearful
  - “I just want to be free of the pain”
  - Things to tell doctor ..........
Further hx:
- Chronic pain since age 16
- Preceding this, lost a baby at 4½ months gestation (states had 4 spots of blood and went to OT, remembers her mother telling her the next day she had lost her baby)
- For following 8 months, had weekly grief counselling with psychiatrist
- Recently went to Tasmania to lay a plaque for baby
Case Study 1 (cont.)

- Initially managed on DPMA and was amenorrhoeic
- Pelvic and abdominal pain ever since
- Sharp pain front of stomach, back pains, pelvic pains, despite no period
- Laparoscopy age 16 in Tasmania and told had endometriosis
- DPMA had no effect on pain
Case Study 1 (cont.)

- At last visit, patient stated “no one can tell me what’s causing the pain”
- Patient asked me “if I was writing down in the notes if she was mad”
- Patient very distressed when told she had no endometriosis and that this was not the cause of her symptoms
- Patient very agreeable for follow up in pain clinic
Case Study 2

- 37yo
- Referral from Central Qld
- Known endometriosis for 15 years
- On continuous OCP 4 monthly cycles
- Severe pain and heavy flow with menses
- “Pain is so severe, cannot take it anymore”
- Severe dyschezia (after defecation during menses, severe pain for ½ hour)
Well documented laparoscopies showing severe endometriosis (1995 Mater, 1999 PAH)

Patient states “would like hysterectomy”

Has tried DPMA, provera, COCP

Para 2 (17 and 15, SVDs)
Case Study 2 (cont.)

• Examination
  - Thin woman
  - Excruciatingly tender on VE with a hard lump in POD

Proceeded to laparoscopy and MRI....
Case work
You have 15 minutes to discuss your case with your group
Prolapse

- Helen is a healthy 43 year old - BMI 35 kg/m²
- G2P2 (4200g forceps, episiotomy, 2\textsuperscript{nd} degree tear; 3800g vaginal birth, episiotomy)
- “Feels like something is bulging out”
- Feeling of heaviness, dragging
- Urinary incontinence when coughing
- Constipation
- Feeling of incomplete emptying bladder & bowel
- Dyspareunia

• Outline your approach
Prolapse

• Grading of prolapse
  o POP-Q
  o Baden-Walker
  o Other
• MSU M/C/S
• Pelvic/transvaginal USS
• Urodynamics
Prolapse

- Weight loss – diet and exercise
- Smoking cessation
- Treat constipation
- Pelvic floor exercises
- Bladder retraining
- Topical oestrogen in post menopausal women
- Pessaries
- Surgery
Additional resources

- Australian Family Physician – pelvic organ prolapse
- Research article - Pelvic Organ Prolapse
- UroGynaecological Society of Australasia – Patient information
- Joint Report on the Terminology for Female Pelvic Organ Prolapse (POP)
- Dr Christopher Maher – Assess your Pelvic Floor
- Dr Christopher Maher – CI 2017 Pathway prolapse surgery
- Dr Christopher Maher – Vaginal prolapse and bowel symptoms
Incontinence

- Donna is 52 years old. G0P0 - BMI 40 kg/m²
- Smoker
- Hypertension, COPD, anxiety/depression, chronic back pain
- Urinary incontinence
  - Has to “rush to the bathroom”
  - “Leakage with coughing”
- No fever, no dysuria, no haematuria, no pelvic pain

• Outline your approach
Incontinence

- Incontinence Questionnaire (e.g. 3IQ)
- MSU M/C/S
- USS urinary tract including post void residual
- ELFTs
- Bladder diary – time and volume
- Bowel diary
- Urodynamics
Incontinence

Appendix 13A. The 3 Incontinence Questions (3IQ)

1. During the last three months, have you leaked urine (even a small amount)?
   - Yes
   - No
   → Questionnaire completed.

2. During the last three months, did you leak urine (check all that apply):
   a. □ When you were performing some physical activity, such as coughing, sneezing, lifting, or exercise?
   b. □ When you had the urge or feeling that you needed to empty your bladder, but you could not get to the toilet fast enough?
   c. □ Without physical activity and without a sense of urgency?

3. During the last three months, did you leak urine most often (check only one):
   a. □ When you are performing some physical activities, such as coughing, sneezing, lifting, or exercise?
   b. □ When you had the urge or feeling that you needed to empty your bladder, but you could not get to the toilet fast enough?
   c. □ Without physical activity or a sense of urgency?
   d. □ About equally as often with physical activities as with a sense of urgency?

Definitions of the type of urinary incontinence are based on responses to Question 3

<table>
<thead>
<tr>
<th>Response to question 3</th>
<th>Type of incontinence</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Most often with physical activity</td>
<td>Stress only or stress predominant</td>
</tr>
<tr>
<td>b. Most often with the urge to empty the bladder</td>
<td>Urge only or urge predominant</td>
</tr>
<tr>
<td>c. Without physical activity or sense of urgency</td>
<td>Other cause only or other cause predominant</td>
</tr>
<tr>
<td>d. About equally with physical activity and sense of urgency</td>
<td>Mixed</td>
</tr>
</tbody>
</table>


Incontinence

- Medical conditions – COPD, screen for diabetes
- Medications
- Caffeine, alcohol, soft drink avoidance
- Smoking cessation
- Weight loss – diet and exercise
Incontinence

• Pelvic floor muscle training (PFMT)
• Bladder retraining
• Topical oestrogen in post menopausal women
• Anti-cholinergics
• Surgery
Incontinence – Bladder chart

Bladder Chart

Why Do a Bladder Chart?
The reason we do a Bladder Chart is to know:

1. How much your bladder is able to hold:
   - This you do by measuring the amount of urine you pass in a jug
   - You measure every time you pass urine over a 24 hour period including night time
2. How many times you are passing urine each day and night
3. How much fluid you drink in a 24 hour period and the type of fluid
4. Record how many times you are incontinent, and
5. If you use a catheter to empty your bladder, record the volume that is drained by the catheter.

How to do this:
Write in the Fluid Intake column the amount of fluid you drink e.g. 100mls or 200mls
In the next column record the Type of Fluids e.g. tea, coffee, water, orange juice or alcohol
Each time you pass urine you must do it in a measuring jug, and then write the amount of urine passed in the Volume Passed column.

The Comments column is where you write down any leakage episodes and what you were doing when you leaked i.e. sneezed - lost some urine, laughing, coughing, straining, stood up or the catheter drainage amount.


Source: Women’s and Newborn Services. RBWH. 2014
Incontinence – Bowel chart

Bowel Chart

Why Do a Bowel Chart?

The reason we do Bowel Charts is to know:

1. The frequency in your bowel movements
2. The consistency of your bowel motion compared to the Bristol Stool Form (see below)
3. The size of the motion you have passed
4. Sensations to pass a bowel motion
5. Record how many times you are incontinent or soil, and
6. Any medications you use to help your bowel.

How to do this:

Write under each column heading the information asked

Bristol Stool Form Scale

Quantity: S = Small M = Medium L = Largo

Kyle G & Purser P 2007, “chapter 8 ‘Bowel Care’” in Promoting continence: a clinical and research resource 3rd


Great state. Great opportunity.
# Bladder Diary

Keep this diary accurately each day, for at least 3 days (if you can, make these 3 consecutive days). If you have not already spoken to your doctor or continence nurse about a bladder control problem, it could be helpful to take this diary with you to your appointment.

<table>
<thead>
<tr>
<th>Day and times passed urine, or</th>
<th>Amount of urine passed</th>
<th>Did you feel the urge to go?</th>
<th>Leakage episodes Small, Medium or Large</th>
<th>Fluid intake Note types of drinks &amp; amounts (record total of drinks over 24 hrs)</th>
<th>Bowel function check Record day/times when bowel motion passed</th>
<th>Notes about when you urinate or leakage happened (e.g. “when I arrived home and put the key in the door”, “when I was out walking…”, “I didn’t feel like I emptied”, or “leaked before I got to the toilet”, and similar. You could also list any drinks or foods you suspect might be irritating the bladder, and include comments about your diet or digestion, etc.)</th>
</tr>
</thead>
</table>

*In the toilet, wee into a large plastic container, then tip into a measuring jug. Record the amount before flushing urine.*

---

# Bowel Diary

Keep this diary accurately each day, for about 3 days. Use with Bristol Stool Form Chart. Visit our on the Continence Foundation website www.continence.org.au.

<table>
<thead>
<tr>
<th>Day/Time of bowel movement</th>
<th>Bowel description</th>
<th>Did you feel the urge to go?</th>
<th>Accidents (e.g. this could be due to urgency or incontinence)</th>
<th>Fluid intake (all drinks before and after toilet visits)</th>
<th>Laxatives, suppositories, etc. (after each visit)</th>
<th>Comments (Include when bowel movement or leakage happened or “Full time after treatment”), “I didn’t feel like I emptied”, “leaked before I got to the toilet”</th>
</tr>
</thead>
</table>

---

**NATIONAL CONTINENCE HELPLINE 1800 33 00 66**
TPCH Physiotherapy Continence Clinic

Promoting Healthy Bladder and Bowel Function

Bladder control problems are common but not normal.

The clinic specialises in the area of women’s and men’s pelvic floor health:
- continence management and pelvic floor muscle exercise program based on a patient’s abilities and needs
- design a personalised pelvic health program
- empowering women and men to regain their confidence and improve their quality of life
- instruction in good bladder habits, fluid intake and bladder retraining
- advice regarding healthy bowel habits and lifestyle factors
- improve bowel control and emptying
- MASS and/or CAPs funding applications

Evidence shows that you can successfully treat bladder control problems through a personalised pelvic health program designed and managed by a specifically trained Physiotherapist.

When

Monday and Tuesday 0800-1600 hours

Where

TPCH Physiotherapy Outpatient Clinic, Ground Floor, Main Hospital Building

Who can refer

Specialist Medical Officers or local GP

Referral via: Metro North HHS Central Patient Intake, Fax 1300 364 952

- Clinic Contact Details
  - Telephone 3139 4444
  - Fax 3139 6147
  - Email TPCH Allied-Health.Admin@health.qld.gov.au

Source: The Prince Charles Hospital 2017
Useful resources

- Department of Veteran’s Affairs - The impact of commonly used medicines on urinary incontinence
- NPS - Medicines that may cause or make incontinence worse
- Managing urinary incontinence in primary care
Pelvic pain

• Kate is 28 years old, G0P0, BMI 30 kg/m²
• Chronic abdominal pain & bloating
• Laparoscopy - mild endometriosis
• Upper GI endoscopy & colonoscopy NAD
• Focal nodular hyperplasia – nodule resected laparoscopically
• Taking Naproxen, Esomeprazole, Oxycodone, Mirena in situ
• Pelvic USS – Mirena in situ, “pelvic congestion syndrome”
• Outline your approach
Pelvic pain

- Hx of pain, cyclical nature, dysmenorrhea, dyspareunia, bladder & bowel symptoms, symptoms of depression, Hx of sexual abuse
- PAP, MSU M/C/S, HVS M/C/S, cervical swab or urine PCR for Chlamydia/Gonorrhoea
- Pelvic/transvaginal USS
Pelvic pain

• Focal nodular hyperplasia & COCP
• “Pelvic congestion syndrome” - ? variant of normal
• Irritable Bowel Syndrome
• Pelvic Inflammatory Disease
• Adhesions
• Role for repeat laparoscopy
• Management of chronic pain – multidisciplinary pain clinic
Heavy menstrual bleeding

- Linda is 32yo G1P1, SVD 2 years ago, BMI 30kg/m2
- 2 years menometrorrhagia, iron deficiency
- Hormonal IUD inserted - bleeding worsened
- Pelvic/transvaginal USS uterus 57cc myometrium homogeneous, endometrium 15.6mm thickened & heterogeneous, hormonal IUD in situ
- Hormonal IUD removed; Ethinyloestradiol 35mcg/Norethisterone 500mcg and Norethisterone 5mg initially effective but condition deteriorating past 6 months
- Reluctant to try 50mcg Ethinyloestradiol COCP because of side effects and VTE risk
- Outline your approach
Heavy menstrual bleeding

• Hx of bleeding, dysmenorrhoea, dyspareunia, impact on quality of life, comorbidity, symptoms suggestive of structural or histological abnormality, desire for more pregnancies

• PALM-COEIN - FIGO Classification (Polyp, Adenomyosis, Leiomyoma, Malignancy & Hyperplasia, Coagulopathy, Ovulatory disorders, Endometrium, Iatrogenic, Not yet classified)
Heavy menstrual bleeding

• PAP, FBC, iron studies, TSH
• Pelvic/transvaginal USS (day 5-10)
• Reliability of USS measurement of endometrial thickness in premenopausal women?
• Role for endometrial sampling?
• Role for hysteroscopy D&C?
Heavy menstrual bleeding

• Rx - Pharmacological – correct iron deficiency, tranexamic acid, NSAIDs, COCP, cyclical oral progesterone, DMPA, hormonal IUD, ulipristal acetate or GnRH analogues if fibroids

• Rx - Surgical - endometrial ablation, hysteroscopic removal of polyps/fibroids, myomectomy, uterine artery embolisation, hysterectomy
Fertility

• Jen is a 36yo teacher G0P0 BMI 26kg/m2
• Ceased OCP 2015
• Partner, Brad is a 38yo teacher
• Trying to conceive 9mo.
• Semen analysis:
  o Concentration 35 million/mL
  o Motility 65%
  o Normal 4%

• Outline your approach
Fertility

• History
  ◦ female - menstrual cycle, previous contraception, timing & frequency of intercourse, smoking, alcohol, drugs, STIs
  ◦ male – medical/surgical/reproductive history, smoking, alcohol, drugs, mumps, testicular conditions

• Examination
  ◦ female – abdomen and pelvis
  ◦ male – testes
Fertility

• Investigations female
  o Pelvic/transvaginal USS
  o FSH, LH, day 21 progesterone, PRL, TSH
  o FBC, group & antibodies, Rubella IgG, Varicella IgG, Syphilis serology, HBV/HCV/HIV serology, cervical swab or urine PCR Chlamydia/Gonorrhoea
  o Pap smear

• Investigations male
  o semen analysis
Fertility

• Role of AMH testing
• Testosterone & free androgen index
• Hysterosalpingogram or sonosalpingogram
• Folic acid 500mcg daily
• Lifestyle counselling – diet, exercise, smoking, alcohol, encourage BMI <25
• Conception counselling
Fertility

• Refer female
  - >35yo unprotected intercourse >6mo.
  - < 35yo unprotected intercourse >12mo.
  - oligo-amenorrhoea, previous pelvic surgery, previous STI, abnormal pelvic examination or pelvic USS, evidence of poor ovulation, evidence of endometriosis
Fertility

• Refer male
  - Azoospermia, low sperm count or motility, poor sperm morphology, impotence, spinal surgery, erection or ejaculation problems