



# Clinical challenge

Questions for this month's clinical challenge are based on articles in this issue. The style and scope of questions is in keeping with the MCQ of the College Fellowship exam. The quiz is endorsed by the RACGP Quality Assurance and Continuing Professional Development Program and has been allocated 4 CPD points per issue. Answers to this clinical challenge will be published next month, and are available immediately following successful completion online at: [www.racgp.org.au/clinicalchallenge](http://www.racgp.org.au/clinicalchallenge). *Steve Trumble*

## SINGLE COMPLETION ITEMS

**DIRECTIONS** Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the most appropriate statement as your answer.

### Case 1 – the Browns

Lesley and Jack Brown are concerned that they haven't conceived after 6 months of concerted effort. Both are in their late 30s and are healthy. Neither have conceived with other partners previously.

#### Question 1

**Which of the following statements is true?**

- A. the Browns should wait at least 12 months before undergoing investigations
- B. 90% of couples conceive within 12 months of discontinuing contraception
- C. the Browns' chance of conception within 6 months is 75%
- D. fertility peaks in a woman's early 30s compared to a man's late teens
- E. the Browns should focus on their careers to take the focus off their fertility.

#### Question 2

**When determining the adequacy of coition, which of the following statements is true?**

- A. asking questions relating to erectile function should be avoided so as not to introduce performance anxiety
- B. semen spill demonstrates excessive

- semen volume
- C. intercourse should be delayed until the basal temperature chart shows an increase
- D. the presence of sperm in the cervical mucus confirms coital adequacy
- E. intercourse should be avoided during the first and last weeks of the cycle.

#### Question 3

**Jack is willing to have a semen analysis but is anxious about producing a sample. Which of the following is true?**

- A. he should abstain from ejaculation for 2–3 days before collecting a sample
- B. a specimen can be collected from Lesley's postcoital semen spill
- C. a condom impregnated with nonoxynol-9 could be used to collect the sample
- D. if he has a varicocele there is no point in collecting a sample
- E. the last portion of the ejaculate contains the most sperm.

#### Question 4

**Lesley asks what investigations she may have to undergo. Which of the following is usually the first test you would order?**

- A. pelvic ultrasound to exclude polycystic ovaries
- B. follicle stimulating hormone (FSH) serum levels to assess pituitary function
- C. luteinising hormone (LH) serum levels to assess ovarian response
- D. midluteal progesterone serum levels to assess ovulation
- E. hysterosalpingogram to assess tubal patency.

### Case 2 – the Browns continued

Jack's semen analysis shows extremely low levels of viable sperm. Lesley's blood tests are normal. From what you know of Lesley and Jack, their relationship is strong and resilient. They have always attended as a couple to discuss their tests and results. A few weeks later, Lesley attends alone and is tearful and distressed.

#### Question 1

**The most appropriate next action is to:**

- A. reassure Lesley that it's not her fault she can't get pregnant
- B. encourage her to get Jack to come and see you
- C. refer Lesley to a qualified infertility counsellor
- D. repeat Jack's semen analysis
- E. listen to and empathise with Lesley's concerns.

#### Question 2

**Lesley explains that she and Jack have been arguing much more since receiving his semen analysis result. Although their fertility problems are never the subject of the arguments, Lesley fears there is a link. What emotional factor is likely to be underlying these arguments?**

- A. resentment
- B. guilt
- C. anger
- D. grief
- E. all of the above.

**Question 3**

**In couples undergoing IVF treatment, the egg retrieval and fertilisation process is most often associated with feelings of:**

- A. increased anxiety
- B. relief that things are moving ahead
- C. increased control
- D. doubt that pregnancy is desired
- E. all of the above.

**Question 4**

**Generally speaking, men and women differ in their responses to the stresses of IVF in that:**

- A. men tend to neglect their work to focus on the infertility problem
- B. men tend to internalise and repress their emotions
- C. women tend to resent their partner asking about their emotions
- D. women tend to seek solutions rather than discussing their problems
- E. men are invariably less vulnerable to stress than women.

**Case 3 – the Browns continued**

Further investigation shows that, not only does Jack have a very low sperm count, but Lesley has completely obstructed tubes on both sides. They wonder what their therapeutic options are.

**Question 1**

**The technique with the greatest chance of success for Lesley and Jack is:**

- A. ovarian hyperstimulation (OH)
- B. intrauterine insemination (IUI)
- C. gamete intrafallopian transfer (GIFT)
- D. in vitro fertilisation (IVF)
- E. intracytoplasmic sperm injection (ICSI).

**Question 2**

**Intracytoplasmic sperm injection is:**

- A. a technique that is acceptable to all religions and cultures
- B. not an option for men who have azoospermia

- C. less invasive for women than IVF
- D. used more commonly than GIFT
- E. not an option for women with polycystic ovaries.

**Question 3**

**The Browns are determined not to have an only child. Their options include all except:**

- A. cryopreservation of embryos
- B. repeated assisted reproduction techniques
- C. implantation of multiple embryos
- D. ovarian hyperstimulation
- E. cryopreservation of oocytes.

**Question 4**

**Midway through their third treatment cycle, Jack discovers that he is adopted and that his genetic father died of Huntington disease. The Browns are distraught and ask about pre-implantation genetic diagnosis (PGD). Which of the following statements is true?**

- A. PGD is a reliable way of detecting chronic diseases such as diabetes and asthma
- B. if Huntington disease were detected, any affected embryos could be removed from Lesley's uterus
- C. PGD allows the detection of embryos affected by Down syndrome
- D. the NHMRC recommends the use of PGD for gender selection
- E. human embryonic stem cells can be used to reverse to effects of Huntington disease.

**Case 4 – Louisa Brown**

Jack and Lesley eventually give birth to fraternal twins, Louisa and Nathalia. They grow up healthily and happily, but as they go through their 20s both girls are increasingly troubled by symptoms of polycystic ovary syndrome (PCOS).

**Question 1**

**The clinical features of PCOS may include:**

- A. endometrial hyperplasia

- B. insulin dependent diabetes mellitus
- C. severe ovulation pain
- D. increased risk of multiple pregnancy
- E. renal and liver cysts.

**Question 2**

**Which of the following is a diagnostic criterion for PCOS?**

- A. suppression of free androgen index (FAI)
- B. low levels of dehydroepiandrosterone sulphate (DHEAS)
- C. elevated levels of FSH and LH with normal prolactin
- D. six or more follicles measuring 2–6 mm in diameter
- E. ovarian volume greater than 10 mL.

**Question 3**

**Louisa is trying to become pregnant. She is obese and hirsute and fulfils the diagnostic criteria for PCOS. Which of the following statements is true?**

- A. she is at increased risk of gestational diabetes mellitus
- B. she is at higher risk of ovarian cancer
- C. she is no more likely to miscarry than a woman of normal weight
- D. the combined oral contraceptive pill is her treatment of choice for PCOS
- E. metformin will reduce her weight.

**Question 4**

**Appropriate investigations for Louisa's fertility include:**

- A. insulin antibody levels
- B. partner's semen analysis
- C. ovarian biopsy
- D. prolactin suppression studies
- E. cervical mucus analysis.