UNDERSTANDING AND UNDERTAKING FSH ASSAYS
FOR DIAGNOSING MENOPAUSE AND
ASSESSING PERIMENOPAUSAL CONTRACEPTIVE NEEDS

Practice Points:
• MENOPAUSE – measurement of FSH is rarely necessary in women who clearly have menopausal symptoms and are within the normal menopausal age range. (See algorithm 1 overleaf)
• CONTRACEPTION – A single raised FSH should not be used as a guide to stopping contraception immediately; two FSH measurements of >30 U/L, 6 weeks apart are required. Some women may continue to ovulate after a raised FSH level (see algorithm 2&3 overleaf)

Pre- and postmenopausal hormone levels:

<table>
<thead>
<tr>
<th></th>
<th>Oestradiol</th>
<th>FSH</th>
<th>LH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pmol/l</td>
<td>U/L</td>
<td>U/L</td>
</tr>
<tr>
<td>Early Follicular</td>
<td>75-140</td>
<td>3.0–10.0</td>
<td>2.5 – 9.0</td>
</tr>
<tr>
<td>Midcycle</td>
<td>550- 2095</td>
<td>usually&lt;30</td>
<td>&lt;90</td>
</tr>
<tr>
<td>Luteal</td>
<td>370-770</td>
<td>1.5 - 9.1</td>
<td>1.5 - 9.0</td>
</tr>
<tr>
<td>Perimenopausal</td>
<td>Variable</td>
<td>Often &gt; 15</td>
<td>Variable</td>
</tr>
<tr>
<td>Post-menopausal</td>
<td>&lt;150</td>
<td>&gt; 30*</td>
<td>&gt;20</td>
</tr>
</tbody>
</table>

(These ranges may vary slightly between laboratories due to methodological differences)

* Note that a patient with a FSH of >30 U/L cannot be regarded as post-menopausal until periods have ceased for at least 1 year

If you wish to measure FSH:
• Consider whether the result will actually help your clinical management.
• Provide the laboratory with the LMP, clinical details and information regarding any contraceptive medication. If the woman is having periods take sample on Day 1-5 of cycle.
• FSH >15 U/L on Day 1-5 of cycle is suggestive but not diagnostic of ovarian failure or perimenopause.
• Random FSH >30 U/L is highly suggestive of ovarian failure or perimenopause but could represent mid-cycle peak especially if LH concentration is greater than FSH.
• Ovarian failure and perimenopause cannot be excluded by normal FSH levels as hormone levels fluctuate markedly in perimenopause.
• For women with aged < 45 who are not on OCP and have amenorrhoea or menstrual irregularity, the laboratory may add additional tests (eg prolactin) if FSH is within the reference range
**Algorithm 1: The use of FSH in the diagnosis of the menopause**

- **Woman aged <45y with amenorrhea or menstrual irregularity and menopause suspected**
  - Measure FSH to make diagnosis of menopause
  - On request form state: LMP, clinical details & contraceptive method
  - FSH > 30 U/L
    - Discuss option of HRT until age of normal menopause
    - FSH < 30 mU/L does not exclude menopause

- **Woman aged >45 years with menstrual irregularity and menopausal symptoms**
  - No need to measure FSH
  - If patient has significant symptoms, discuss option of HRT
  - If HRT is not indicated no further action is required

**Algorithm 2: Use of FSH in women with various contraceptive methods**

- **Woman aged > 50 years using progestogen-only pill, Implanon, Depo-Provera or Mirena with amenorrhea who wishes to stop contraception**
  - Measure FSH
  - FSH > 30 U/L on 2 occasions 6 weeks apart
    - Use contraception for one further year then stop
  - FSH < 30 U/L
    - Continue contraception
    - Check FSH after 1 year
Algorithm 3: FSH in women taking combined oral contraception

Woman 50 years or more taking combined pill who wishes to consider stopping contraception

Change to progestogen-only pill (POP)
Allow at least 6 weeks on POP
check FSH on 2 occasions 6 weeks apart

If both FSH results are >30 U/L,
use contraception for one further year
then stop

If either FSH result < 30 U/L,
continue with POP for 1 year
then re-test for FSH on 2 occasions 6 weeks apart

Reference
Faculty of Sexual and Reproductive Healthcare Clinical Guidance May 2010 Contraception for women aged over 40 years.

- Dr Ailsa E Gebbie, Lothian Sexual and Reproductive Health Service
- Dr Geoff Beckett, Clinical Biochemistry, Royal Infirmary of Edinburgh, NHS Lothian

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