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Selection of cut-off faecal haemoglobin concentration(s) for use with FIT for screening

An interactive session led by:
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World Endoscopy Organization
Colorectal Cancer Screening Committee
Expert Working Group: FIT for Screening

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Faecal Immunochemical Tests

- Qualitative** - positive/negative – usually sample collected onto a card or on a probe or stick – then faeces taken into a tube containing buffer – then analysis done with immunochromatographic test cassettes or strips.

Cut-off faecal haemoglobin concentration for further investigation, usually colonoscopy, set by manufacturer.
- Quantitative** - measure faecal haemoglobin [f-Hb] concentration – usually automated immunoturbidimetry.

Major of the many advantages, stated very frequently, is that the cut-off concentration can be set by user.

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FIT at different cut-off faecal haemoglobin cut-off concentrations for advanced neoplasia

| µg Hb/g faeces | Positivity (%) | Detection Rate (%) | PPV (%) | Specificity (%) |
|----------------|----------------|--------------------|---------|-----------------|
| 10 | 8.1 | 3.2 | 42 | 95.5 |
| 15 | 5.7 | 2.7 | 49 | 97.2 |
| 20 | 4.8 | 2.5 | 53 | 97.8 |
| 25 | 4.1 | 2.3 | 57 | 98.2 |
| 30 | 4.0 | 2.3 | 60 | 98.4 |
| 35 | 3.6 | 2.2 | 63 | 98.7 |
| 40 | 3.5 | 2.1 | 62 | 98.8 |

Hol L, et al. Br J Cancer 2009;100:1103-10

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Please interact with us – if you are using or planning to use FIT - and state the following

- Your name
- Your country or region and country
- Whether, in 2014, you are using FIT, or planning or piloting
- The FIT you are using or planning to use
- The cut-off faecal haemoglobin concentration(s) you are using for referral for colonoscopy
- The rationale for choosing this (these) cut-off(s)
- Whether the information has been published

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Please interact with us – if you are using or planning to use FIT - and state the following

- Callum Fraser
- Scotland
- Done an evaluation of feasibility – cost-benefit analysis accepted - business case going to Government
- OC-Sensor Diana used in evaluation – but tender out – not decided as yet what system will be used
- 80 µg Hb/g faeces
- To get positivity rate of ca 2% - limited colonoscopy
- UEGJ 2013;1:198-205

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- The cut-off faecal haemoglobin concentration(s) you are using for referral for colonoscopy
- The rationale for choosing this (these) cut-off(s)
- Whether the information has been published
- e-mail the data you present to callum.fraser@nhs.net



Faecal haemoglobin

Faecal haemoglobin concentration affected by disease (of course) and:

- *gender – men have higher f-Hb than women*
- *age – older people have higher f-Hb than younger*
- *country*
- *analytical system used – all FIT are NOT the same*
- *deprivation (SES) – more deprived have higher f-Hb than less deprived*
- *probably ethnic group and race*



Opinions, please

Should we have more than one faecal haemoglobin cut-off concentration for –

- *men and women*
- *younger and older*
- *different deprivation groups*
- *different ethnic groups or races*

OR

Should we “individualise” screening by developing a “risk-score” incorporating factors known to affect CRC risk?