Biochemical Investigation of PCOS

Background

This is a survey about the Biochemical Investigation of PCOS that has been designed by James Hawley, Professor Brian Keevil, Professor Wiebke Arlt and Birmingham Quality (as the provider of the UK NEQAS for Steroid Hormones services).

To help diagnose the polymorphic condition of Polycystic Ovary Syndrome (PCOS) patients should have equity of access to the same biochemical profile to facilitate the Investigation of Hyperandrogenaemia.

The aim of this Survey is to probe the biochemical investigation of PCOS from both a laboratory and clinical perspective.

We hope that you will able to contribute to this area, which has an aim to develop best practice for the investigation of PCOS based on current evidence

SurveyMonkey does not allow you to save your responses part way through and return later, therefore we recommend that you download a pdf of the questions to review before completing. For a copy of the audit questions please click here.

This Survey should take 10-15 minutes to complete.

Please contact Birmingham Quality if you have any questions (birminghamquality@uhb.nhs.uk)

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Your Details

1. Please enter your contact details which will be used to cross reference to your laboratory method and if we need to contact you. Please provide your email address if you would like to be informed of the outcome of this survey.

UK NEQAS Laboratory ID(s) *(Clinicians - please leave blank)*

Hospital/Trust Name

City

Country

Your Name

Your email address

Your role *(eg Senior Biomedical Scientist, Consultant Endocrinologist, Senior Registrar, Principal Clinical Scientist, Advanced Nurse Practitioner etc)*

Please leave blank *(internal use only)*

2. Do you routinely interpret female androgen profiles? (routinely is defined as at least monthly).

- ◯ Yes
- ◯ No

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Clinical Scenerio

You receive a request from primary care on a 25 year old female with no previous history and no individual tests requested but clinical details indicating 'PCOS screen'.

3. What is your laboratory's PCOS screen (don't include tests that you may add on)? (Please select all that apply)

- [ ] LH
- [ ] FSH
- [ ] Testosterone
- [ ] Androstenedione
- [ ] Dehydroepiandrosterone (DHEA)
- [ ] DHEA Sulphate (DHEAS)
- [ ] 17-Hydroxyprogesterone (17-OHP)
- [ ] Sex Hormone Binding Globulin
- [ ] Albumin (for Calculated Free Testosterone)
- [ ] Free Androgen Index
- [ ] Calculated Free Testosterone
- [ ] Oestradiol
- [ ] Progesterone
- [ ] Thyroid Hormone Screen
- [ ] Prolactin
- [ ] Other (please specify)

4. Do you add on any tests based on the results of the PCOS initial screen? If yes, please detail in the comments box

- ( ) Yes
- ( ) No

Please give details of reflexed tests

5. Are there any tests that you would NEVER add on, based on the results of an initial PCOS screen? (Please select all that apply)

- [ ] LH
- [ ] FSH
- [ ] Testosterone
- [ ] Androstenedione
- [ ] Dehydroepiandrosterone (DHEA)
- [ ] DHEA Sulphate (DHEAS)
- [ ] 17-Hydroxyprogesterone (17-OHP)
- [ ] Sex Hormone Binding Globulin
- [ ] Albumin (for Calculated Free Testosterone)
- [ ] Free Androgen Index
- [ ] Calculated Free Testosterone
- [ ] Oestradiol
- [ ] Progesterone
- [ ] Thyroid Hormone Screen
- [ ] Prolactin
- [ ] Other (please specify)

6. Do you routinely exclude hypothyroidism in a PCOS screen?

- ◯ Yes
- ◯ No

7. Do you routinely exclude non-classical CAH in a PCOS screen *(e.g. by measuring 17OHP)*?

- ◯ Yes
- ◯ No

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Testosterone

The following questions look in more detail at your Testosterone assay and protocols for female specimens

8. If analysing Testosterone, please specify your primary method of analysis

- [ ] LC-MS/MS
- [ ] LC-MS
- [ ] Abbott Architect Immunoassay
- [ ] Abbott Alinity Immunoassay
- [ ] Beckman Access/Dxi Immunoassay
- [ ] Roche Cobas Immunoassay
- [ ] Siemens ADVIA Centaur Immunoassay
- [ ] Siemens Atellica Immunoassay
- [ ] Siemens Immulite Immunoassay
- [ ] Don't know
- [ ] Other (please specify)

9. Which specimen types do you accept for Testosterone analysis? (Please select all that apply)

- [ ] Serum from SST
- [ ] Serum from Plain Tube
- [ ] Lithium Heparin Plasma
- [ ] EDTA Plasma
- [ ] Fluoride Oxalate Plasma
- [ ] Don't know
- [ ] Other (please specify)

10. For Mass Spectrometry users, what is the source of your calibrator?

- ( ) In-house
- ( ) 3rd party (please state manufacturer in the comments field)
- ( ) Don't know
- ( ) Not applicable (Not a Mass Spectrometry user)

Other (please specify)

11. What Testosterone reference range do you apply to post-pubertal, pre-menopausal females? (number and unit)

12. If known, what is the source of the Testosterone reference range given in Q11 (please select all that apply)

- [ ] Manufacturer's kit insert
- [ ] Guidelines (please specify in the 'Other' field)
- [ ] Expert opinion / Clinical experience
- [ ] In-house derived
- [ ] Don't know
- [ ] Other (please specify)

13. Please indicate above what Testosterone concentration would you identify as being consistent with PCOS? (number and unit, NB if you don't apply a cut off please state 'NA')

14. If using Immunoassay for routine Testosterone measurements (in females), do you offer a confirmatory analysis using another method (including sending specimen to another laboratory for analysis)?

- ( ) Yes, in-house
- ( ) Yes, but sent to another laboratory
- ( ) No
- ( ) Don't know

15. Is yes, to Q14, at what Testosterone concentration do you apply this protocol? (number and unit)

16. Do you routinely provide a measurement or index of Free Testosterone to clinicians on all Testosterone (female) requests?

- ( ) Yes
- ( ) No

17. If yes, to Q16, how do you measure/calculate free Testosterone? (please select all that apply)

- [ ] Equilibrium Dialysis
- [ ] Calculated Free Androgen Index
- [ ] Calculated Free Testosterone
- [ ] Don't know
- [ ] Other (please specify)

18. What equation do you use for Calculated Free Testosterone?

- [ ] Vermeulen
- [ ] Sodergard
- [ ] Nanjee-Wheeler
- [ ] Ly-Handelsman
- [ ] Use equation in manufacturer's kit insert
- [ ] Don't know
- [ ] Other (please specify)

19. What is the Reference Range for your Free Testosterone measurand? (number and unit)

20. If known, what is the source of the Free Testosterone reference range given in Q19 (please select all that apply)

- [ ] Manufacturer's kit insert
- [ ] Guidelines (please specify in the 'Other' field)
- [ ] Expert opinion / Clinical experience
- [ ] In-house derived
- [ ] Other (please specify)

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Androstenedione

The following questions look in more detail at your Androstenedione assay and protocols for female specimens

21. Do you analyse Androstenedione in your laboratory?

- [ ] Yes
- [ ] No

22. If analysing Androstenedione, please specify your primary method of analysis

- [ ] LC-MS/MS
- [ ] LC-MS
- [ ] Abbott Architect Immunoassay
- [ ] Abbott Alinity Immunoassay
- [ ] Beckman Access/Dxi Immunoassay
- [ ] Roche Cobas Immunoassay
- [ ] Siemens ADVIA Centaur Immunoassay
- [ ] Siemens Atellica Immunoassay
- [ ] Siemens Immulite Immunoassay
- [ ] Don't know
- [ ] Other (please specify)

23. Which specimen types do you accept for Androstenedione analysis? (Please select all that apply)

- [ ] Serum from SST
- [ ] Serum from Plain Tube
- [ ] Lithium Heparin Plasma
- [ ] EDTA Plasma
- [ ] Fluoride Oxalate Plasma
- [ ] Don't know
- [ ] Other (please specify)

24. If you analyse Androstenedione routinely in your laboratory, what Androstenedione reference range do you apply to post-pubertal, pre-menopausal females? (number and unit)

25. If known, what is the source of the Androstenedione reference range given in Q24 (please select all that apply)

- [ ] Manufacturer's kit insert
- [ ] Guidelines (please specify in the 'Other' field)
- [ ] Expert opinion / Clinical experience
- [ ] In-house derived
- [ ] Don't know
- [ ] Other (please specify)

26. Please indicate above what Androstenedione concentration would you identify as being consistent with PCOS? (number and unit, NB if you don't apply a cut off please state 'NA')

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Laboratory Practice

The following questions probe how you communicate Testosterone/SHBG/Androstenedione assay characteristics, both performance and interferences etc with your users/clinical colleagues.

27. Do you discuss your Testosterone/SHBG/Androstenedione assay performance characteristics with your clinical colleagues?

- Yes
- No

28. If yes, to Q27, how regularly do you update your clinical colleagues on your Testosterone assay performance characteristics?

- When changing method
- Every 2 years
- Annually
- Quarterly
- Never
- If a problem becomes apparent
- Don't know
- Other (please specify)

29. If yes, to Q27, how do you update your clinical colleagues on your Testosterone/SHBG/Androstenedione assay performance characteristics? *(Please select all that apply)*

- [ ] Educational seminar
- [ ] All Hospital Communication / Hospital Intranet
- [ ] MDT meetings
- [ ] Your Laboratory / Pathology Website
- [ ] On Individual Reports
- [ ] Other (please specify)

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Questions for Clinicians only

The following questions probe how you communicate with your laboratory and further action that you may take based on the results of a PCOS Screen

30. Do you discuss your Testosterone/SHBG/Androstenedione assay performance characteristics with your laboratory colleagues?

- ◯ Yes - most cases
- ◯ Yes - interesting / difficult cases only
- ◯ No

31. How frequently do your laboratory communicate with you on the analytical performance and characteristics of the assays that they use?

- ◯ When changing method
- ◯ Every 2 years
- ◯ Annually
- ◯ Quarterly
- ◯ Never
- ◯ If a problem becomes apparent
- ◯ Don't know
- ◯ Other (please specify)

32. As a clinician, when investigating PCOS, do you take additional measurements of

- [ ] BMI
- [ ] BP
- [ ] Diabetes Screen
- [ ] Fasting Lipid Profile
- [ ] Other (please specify)

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Thank you for completing this survey

Results will be reviewed and published on the Birmingham Quality website. If you have provided an email address you will be provided with a link.

The next phase of this work will review responses to method related characteristics with a view to provide evidence for the harmonisation and standardisation of best practice.

33. Please enter any other comments that you would make or any questions you would like to ask us