

# Blood Testing:

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## Basics

- CBC
- CMP
- Lipids

## Additional:

- Thyroid
- Free T4
- TSH
- Free T3
- Reverse T3
- SHBG: Sex Hormone Binding Globulin

## Others:

- HbA1C & Insulin
- HS CRP & Homocysteine
- FSH & LH
- ? DHEA-S + Testosterone (free and total)
- Other possibilities, for sure

If they arrive to my office with every one of these tests *except* the SHBG, I'll still obtain a baseline SHBG!

# Why & How To Test: Re Serum

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Testing young and menstruating women:

- Serum works well enough
- Challenges are more related to timing of cycle
- Methods are shifting over to LCMS from immune

Peri & menopausal women that we are *treating* ...

- Do 24 hour urine hormone test
  - Women take their hormones religiously for 5 days prior to, plus during test sample collection
  - We get a real-time assessment of the levels of hormones their bodies are receiving from treatment
- Very unusual to test a woman in peri- or menopause initially

We always get a serum SHBG,  
and there is new possible value in FSH

# FSH Suppression & Effect on Weight + Bone

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Contributed by Jonathan V. Wright M.D.

FSH regulates fat accumulation and redistribution in aging through the Gai/Ca<sup>2+</sup>/CREB pathway

FSH block decr obesity-Korht-NEJM 2017.pdf

Blocking FSH Action Attenuates Osteoclastogenesis

Blocking FSH induces thermogenic adipose tissue and reduces body fat

Preventing Fat Gain by Blocking Follicle-Stimulating Hormone

Burning Fat and Building Bone by FSH Blockade

FSH regulates fat accumulation and redistribution in aging through the Gai/Ca<sup>2+</sup>/CREB pathway

# Challenges of Serum Hormone Testing In a Woman in Menopause:

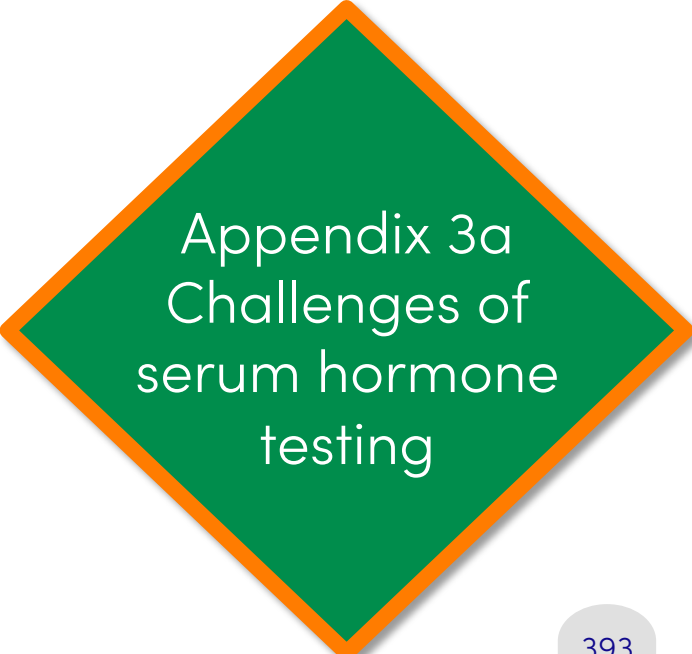
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? Value in general

- For a woman being treated with hormones

Time of blood draw after preceding dose matters...

- No metabolites
- Cost
- Method (LCMS vs Immune)
- Issue of total E's vs free E's



Appendix 3a  
Challenges of  
serum hormone  
testing

# Hormone Testing

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*We gradually increase to optimal dose...*

*And when we think patient  
has “arrived” clinically*

*We test  
100%*

*We also test during the dose determination process  
if a case is challenging*

*Occasionally we test at the onset*

- when a patient seems to have  
more going on than the obvious*
- when a patient requests it*

# Hormone Testing: it is important for you to....

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Know about and choose optimal hormone testing method

Know about hormone testing:

- Reference range challenges
- Be able to distinguish low analyte levels from high levels to detect:
  - possible excessive Rx dosages
  - hormonal or dosage deficiencies
- Detect metabolite issues




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10/3/12 Annual Meeting  
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# NAMS on Hormone Testing:

*“Menopausal hormone levels vary throughout the day, as well as from day to day. NAMS does not recommend hormone level testing”*