

# WHICH HORMONES TO TEST

**CHAPTER 6  
APRIL, 2013**

**BRINGING A NEW DIMENSION TO PAIN CARE**

Information presented here is a public service for health practitioners. It is provided by the Tennant Foundation.

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**Information  
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## INTRODUCTION

The most common question we get at the Hormones & Pain Care Information Network is, “What hormones should I test?” Hormone panels are subject to available technology and a hormone’s role in pain management. Our recommended panel, therefore, will likely change in the future.

Testing of a hormone is done for two reasons:

- 1. Biomarker of uncontrolled pain.**
- 2. Determine if replacement is necessary.**

## IDEAL VERSUS PRACTICAL

Shown here is our recommended “Ideal” 6 hormone panel based on today’s technology. It is called “Ideal” because it contains most of the pain control hormones which can be measured in a range of low to high. All also serve as biomarkers of uncontrolled pain, and all but ACTH can be easily replaced if they are low in the serum.

<b>IDEAL PANEL</b>	
<b><u>HORMONE</u></b>	<b><u>MAJOR SOURCE</u></b>
<b>1. Adrenocorticotropin (ACTH)</b>	<b>Pituitary</b>
<b>2. Cortisol</b>	<b>Adrenal</b>
<b>3. Pregnenolone</b>	<b>Adrenal/CNS*</b>
<b>4. Dehydroepiandrosterone (DHEA)</b>	<b>Adrenal/Gonads/CNS</b>
<b>5. Testosterone</b>	<b>Adrenal/Gonads</b>
<b>6. Progesterone</b>	<b>Gonads/CNS</b>

\*CNS here means the hormone is made in the central nervous system and is called a “neurosteroid”.

<b>A PRACTICAL 2 HORMONE PANEL</b>	
<b><u>HORMONE</u></b>	<b><u>IMPORTANCE</u></b>
<b>1. CORTISOL</b>	<b>Very low levels below 1.0 mcg/dl may be life-threatening. High levels have serious complications and indicate uncontrolled pain.</b>
<b>2. TESTOSTERONE</b>	<b>Low levels interfere with analgesia, particularly opioids, and reduce energy, strength, motivation, libido, sleep, and appetite.</b>

This 2-hormone panel is a good place to start if you are a practitioner just getting into testing. It is usually affordable and paid by almost all third party payors. Most critical is that severe pain initially causes serum cortisol to elevate but may drop to extremely low, life-threatening levels with little warning or suspiciousness.

WHY TEST FOR HORMONES IN THE IDEAL PANEL?

1. ADRENOCORTIOTROPIN (ACTH)

High or low levels indicate uncontrolled pain. An elevation or depression of ACTH is an excellent biomarker that centralized pain is present.

2. PREGNENOLONE

May be the first hormone to suppress and need replacement if pain is uncontrolled. Opioids commonly suppress this hormone. It has major CNS protection and regeneration properties.

3. DHEA

DHEA rather than pregnenolone may be the first hormone to suppress with uncontrolled pain or opioids. Replacement is necessary as it is a precursor of testosterone, progesterone, and estrogen. It is a neurosteroid with CNS regenerative properties.

4. PROGESTERONE

Serum levels with a high and low range are now available for men and women. Replacement is particularly helpful in reducing the pain and symptoms of centralized pain.

## OTHER HORMONES

In the future other hormones may be recommended and added to the panel. At this time, however, the hormones recommended are reported by commercial laboratories in a high and low range. Also, all recommended are known to have critical roles in tissue regeneration, neuroprotection, and pain control.

<b><u>WHY REPLACE HORMONES IN PAIN PATIENTS?</u></b>
✓ <b>Protection and regeneration of nerve tissue</b>
✓ <b>Reduce requirement for opioids and other drugs</b>
✓ <b>Improve mental, physical, and social functioning</b>
✓ <b>Containment and control of centralized pain</b>
✓ <b>Maintain anatomic structures necessary for analgesic effects</b>
✓ <b>Prevent complication caused by deficient hormone levels</b>

## INTERPRETATIONS AND ACTIONS FOLLOWING HORMONE TESTING

<b><u>FINDING</u></b>	<b><u>INTERPRETATION</u></b>	<b><u>ACTION</u></b>
<b>HIGH SERUM LEVEL</b>	<b>PAIN IS UNCONTROLLED</b>	<b>IMMEDIATE PAIN RELIEF NEEDED</b>
<b>LOW SERUM LEVEL</b>	<b>PAIN IS UNCONTROLLED AND HAS DEPLETED GLANDULAR RESERVE</b>	<b>REPLACE HORMONE AND DETERMINE IF MORE ANALGESIA IS NEEDED</b>
<b>NORMAL SERUM LEVELS</b>	<b>PAIN IS MILD TO MODERATE</b>	<b>NO NEED FOR HORMONE REPLACEMENT OR MUCH MORE ANALGESIA</b>