



Compounding Since 1985

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# Oxytocin

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## Assessing Oxytocin Sufficiency in Your Patients

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Adapted from data by  
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Thierry Hertoghe, MD

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**These statements have not been evaluated by the FDA. Please note that this is a guideline only for informational purposes and not for a definitive for each individual patient as it is understood to be a variance in each assessment.**

## Assessing Oxytocin Sufficiency in Your Patients

For many years, clinicians have been aware that oxytocin sufficiency plays a critical role in labor and delivery, lactation, and autism; however, volumes of recent studies have shown that oxytocin also plays a key role in maintaining other aspects of overall health. Research confirms that adequate oxytocin is critical for normal cellular function in other organ systems.

### The Emerging Link Between Oxytocin Sufficiency and Disease Incidence

**A closer look at the mounting research studies revealed that low levels of oxytocin are associated with increased risk of certain medical conditions, including:**

- Prader Willi Syndrome<sup>1-3</sup>
- Autism<sup>4</sup>
- Low Estrogen<sup>5</sup>
- Low Thyroid T<sub>3</sub><sup>6</sup>
- Depression<sup>7</sup>
- AIDS<sup>8</sup>
- CMV Infection<sup>15</sup>
- Multiple Sclerosis<sup>9</sup>
- Fibromyalgia<sup>10</sup>
- Chronic Stress Situations<sup>11</sup>
- Chronic Opioid Use<sup>12</sup>
- Parkinsons<sup>12</sup>
- Loneliness<sup>13</sup>
- Anxiety Disorders<sup>14</sup>
- Some types of Schizophrenia<sup>15</sup>

Until recently, the traditional use of oxytocin (Pitocin®) in medical care throughout the world has been primarily in the area of labor and delivery. Oxytocin has also long been given to new mothers who have trouble producing enough milk to nurse their newborn. But recently oxytocin has met the evidence-based medicine for use in the treatment of autism. At least two double-blinded, placebo-controlled trials have now been done at two different medical centers by two different researchers, and both have been shown the use of oxytocin in the treatment of autistic children to be beneficial.<sup>17, 18</sup>

**Oxytocin deficiency has been linked to increased risk of developing:**

- Autism
- Depression
- Fibromyalgia

**Oxytocin reduces:**

- Anxiety
- Stress
- Depression
- Appetite
- Pain<sup>18</sup>

**Oxytocin deficiency in pregnancy and after delivery is associated with:**

- Increased odds of primary cesarean delivery
- Lack of lactation

**Oxytocin sufficiency protects against:**

- Obesity
- Heart Disease
- Drug Addiction<sup>18</sup>

**Oxytocin's Classic Physiology**

Providers have known that oxytocin sufficiency is important to emotional homeostasis and to the maintenance of social memory. Oxytocin increases pleasure, attachment, love, orgasms and longevity. The lack of oxytocin in the amygdale (where social memory is stored) of the brain will produce anxiety and fear.

**What risk factors contribute to oxytocin deficiency?**

- Drinking excessive amounts of fluid/water
- Loneliness
- Lack of familial and social contacts
- Fear
- Drug abuse
- Detachment
- Bad social experiences
- Prolonged or even short negative stress
- Anger<sup>18</sup>

## Maintaining Oxytocin Sufficiency

Oxytocin levels increase with food intake, soft touch, hugs, massage, reading, viewing pictures of loved ones, music, singing, physical exercise, positive environments, positive social contacts, living with others, partner support, mothers love, romantic love, warm climate, nipple stimulation, suckling, vaginal distension, orgasm.<sup>18</sup>

## Oxytocin Testing

### Assessing Oxytocin Levels

FFP Labs in North Carolina offers oxytocin testing via ELISA assay for the assessment of oxytocin. The oxytocin assay has been used in major clinical studies where oxytocin is measured.

### Classification of Oxytocin Status for Adults and Children

**Insufficient:** Less than 5 pg/ml for adults; Less than 1.25 pg/ml for children

**Optimal Sufficiency:** 7-15 pg/ml for men; 7-18 pg/ml for women

### Terms and Conditions

When you purchase a blood test from FFP Laboratory, you are doing so with the understanding that you are privately paying for these tests. There will be absolutely no billing to Medicare, Medicaid, or private insurance.

## Oxytocin Testing FFP Lab

**Synonyms:** None

**Special instructions:** See P100 instructions from lab

**Specimen:** Aliquotted

**Volume:** 8ml blood mixed with EDTA and protease inhibitor

**Minimum Volume:** 8ml (Note: This volume does not allow for repeat testing)

**Container:** Special tubes from the lab (P100)

**Storage instructions once specimen plasma separated out:** Place plasma on dry ice, keep cold at -20° to -80°

**Limitations:** Ship to lab on dry ice, overnight

**Methodology:** ELISA assay

**Make sure to send a copy of the patient history, oxytocin questionnaires, and disclaimer with specimen to FFP Labs.**

### FFP Labs

576 Upward Road, Suite 8,  
Flat Rock, NC 28731

Tel: (828) 694-1144 / (877) 900-5556  
Fax: (828) 697-9020

FFP\_Lab@yahoo.com  
www.FFPLab.org

## Disclaimer for the Use of Oxytocin Therapy

### Consent for Medical Care and Treatment

NOTE TO PATIENT: There are risks involved in any procedure or treatment. It is not possible to guarantee or give assurance of a successful result. It is important that you clearly understand and agree to the planned treatment. You have received specific education regarding the proposed hormonal treatment based upon your assessment here at the office. We have reviewed the benefits and risks of the treatment of your medical illness with the use of oxytocin. You have had an opportunity to ask questions and to request additional information.

I authorize \_\_\_\_\_ (physician name) and such physicians, associates, assistants and other personnel of \_\_\_\_\_ (group name) chosen by him/her to perform **Oxytocin Assessment and Treatment**. This includes any other procedure that in their judgment may be advisable to my well-being, including such procedures as are considered medically advisable to obtain the maximal benefits with the least risks in regards to the above proposed program of hormonal replacement therapy.

The rationale for oxytocin blood testing and for oxytocin treatment are based upon the results of Questionnaire #1 (the Hertoghe Oxytocin Assessment) and Questionnaire #2 (the Hertoghe Oxytocin Physical Exam). Laboratory testing for oxytocin is recommended if the score on Questionnaire #1 is 65 or below and/or the score on Questionnaire #2 is 31 or below.

If laboratory testing for oxytocin is recommended, based on the indicators given above, a blood pull should be done for this purpose. This blood pull should be done prior to the Oxytocin Challenge Test described below. Results of the laboratory testing for oxytocin will document if there is a need for long-term treatment with oxytocin. (Testing for oxytocin blood levels is available via FFP Labs – Flat Rock, NC – 828/694-1144)

The Oxytocin Challenge Test is a functional test that will allow the practitioner to assess a patient's responsiveness to oxytocin. During an office visit, the patient is given 10 units of oxytocin injectable mixed with 0.25ml lidocaine 1% with epinephrine. Within a period of five minutes, the patient with sufficient oxytocin should feel warmth develop throughout the body. A slight blush will appear on the chest and face. The ears will turn as red as the individual's lips. If no response is noted after five minutes, the individual is considered to be non-responsive to the exposure to oxytocin. DHEA insufficiency is often responsible for this non-responsiveness and a check of the DHEA-S level is recommended in this case. Insufficiency of choline and inositol may give non-responsiveness also.

There may be complications from the use of oxytocin long-term. These complications include the following:

- Oxytocin can occasionally produce water weight gain. A patient's weight should be recorded prior to the start of oxytocin treatment. The patient's weight should be measured again (can be done at home) three days after the initiation of oxytocin therapy. If there is a weight gain of eight pounds or more within a period of three days, the physician and patient must consider the risk of this side effect versus the benefits of oxytocin therapy. Keep in mind that treatment of the weight gain can usually be accomplished by the use of a mild diuretic.
- Oxytocin can inhibit ACTH production from the pituitary and cause a drop in the overall production of cortisol from the adrenals. An oxytocin injection of 10 units should normally make a person feel better. If, after the Oxytocin Challenge Test, the patient feels worse, adrenal insufficiency studies should be initiated.
- Oxytocin can increase the cerebral spinal fluid output of the brain. If, after the Oxytocin Challenge Test, a headache is induced that lasts longer than one hour, there is the possibility of a brainstem obstruction. The obstruction is often due to the presence of the cerebellar tonsils protruding into the foramen magnum. An MRI of the brain, specifically of the foramen magnum location, is recommended to check for this condition.
- Oxytocin receptor activation inhibits the growth of cells derived from neural, breast epithelium, endometrium, and bone tissues. In contrast, oxytocin induces growth of trophoblasts and small lung cancer cells. This is found in the book *Autism: Oxidative Stress, Inflammation, and Immune Abnormalities* edited by A. Chauhan et al. The book was

published by CRC Press in 2010. The reference comes from the chapter called “Possible Mechanism Involving Intestinal Oxytocin, Oxidative Stress, and Signaling Pathways in a Subset of Autism with Gut Symptoms” page 299-314.

- Oxytocin can stimulate the formation of Nitric Oxide, a gas produced by the endothelial cells of the blood vessels. This gas is a powerful vasodilator. Any person taking nitroglycerine for angina should not take oxytocin, this combination may drop a person’s blood pressure and induce syncope or to be light headed.

Oxytocin deficiency may be found low in:

- Prader Willi Syndrome<sup>1-3</sup>
- Autism<sup>4</sup>
- Low Estrogen<sup>5</sup>
- Low Thyroid T<sub>3</sub><sup>6</sup>
- Depression<sup>7</sup>
- AIDS<sup>8</sup>
- CMV Infection<sup>15</sup>
- Multiple Sclerosis<sup>9</sup>
- Fibromyalgia<sup>10</sup>
- Chronic Stress Situations<sup>11</sup>
- Chronic Opioid Use<sup>11</sup>
- Parkinsons<sup>12</sup>

Until recently, the traditional use of oxytocin (Pitocin®) in medical care throughout the world has been primarily in the area of labor and delivery. Oxytocin has also long been given to new mothers who have trouble producing enough milk to nurse their newborn. But recently oxytocin has met the evidence-based medicine for use in the treatment of autism. At least two double-blinded, placebo-controlled trials have now been done at two different medical centers by two different researchers, and both have been shown the use of oxytocin in the treatment of autistic children to be beneficial.<sup>16, 17</sup>

[ \_\_\_\_\_ ] **Alternative Treatment:** I am satisfied with my understanding of the nature of the treatment and all of my additional questions about the treatment have been answered.

[ \_\_\_\_\_ ] **No Treatment:** I am satisfied with my understanding of the possible consequences, outcomes or risks if no treatment is rendered.

[ \_\_\_\_\_ ] **Second Opinion:** I have been offered the opportunity to seek a second opinion concerning the proposed treatments from another physician of our choice.

[ \_\_\_\_\_ ] **Limitations of Medical Care:** I understand that \_\_\_\_\_ (physician name), the healthcare provider who has provided this consent form to me, is providing a specific hormonal treatment and protocol and that the physician is not taking responsibility for any other aspect of my ongoing medical care. My personal physician shall continue to provide all of my standard and continuous medical care. I hereby authorize the doctor to speak directly with my primary care physician when medically necessary regarding my past and present medical care and treatment.

[ \_\_\_\_\_ ] **Other Questions:** I am satisfied with my understanding of the nature of the treatment and all of my additional questions about the treatment have been answered.

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_ **Time** \_\_\_\_\_ **am/pm**

**Primary Physician** \_\_\_\_\_ **Primary Physician Telephone** \_\_\_\_\_

# Patient History for Oxytocin Evaluation

*Please fill out completely.*

Last Name \_\_\_\_\_ First Name \_\_\_\_\_ MI \_\_\_\_\_

Address \_\_\_\_\_

C/S/Z \_\_\_\_\_

DOB \_\_\_\_\_ Best Daytime Tel \_\_\_\_\_

Occupation \_\_\_\_\_ Gender (circle) Male Female

List ALL MEDICATIONS you are now taking or that you usually take. Include all prescriptions from physicians and all medications purchased without a prescription, such as antacids, laxatives and pain medications such as Tylenol®, aspirin and Excedrin®. Please list the strength (dosage) and frequency used. (Example: aspirin, 5 grams, 2 tablets every 4 hours.)

## NAME OF MEDICATION, DOSAGE, FREQUENCY

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_
- 6) \_\_\_\_\_
- 7) \_\_\_\_\_
- 8) \_\_\_\_\_
- 9) \_\_\_\_\_
- 10) \_\_\_\_\_

## DRUG ALLERGIES

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, list below:

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_

## OTHER ALLERGIES

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_

Do you smoke? Yes \_\_\_\_\_ No \_\_\_\_\_ Age began smoking \_\_\_\_\_

Do you drink coffee with caffeine? Yes \_\_\_\_\_ No \_\_\_\_\_ Number cups per day \_\_\_\_\_

Do you drink alcohol? Yes \_\_\_\_\_ No \_\_\_\_\_ Number of beers per day \_\_\_\_\_

Number of other types of alcohol daily \_\_\_\_\_ What is your soda choice? \_\_\_\_\_

## CURRENT MEDICAL PROBLEMS

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_

PAST MEDICAL PROBLEMS AND SURGERIES

Illness and Dates \_\_\_\_\_

Illness and Dates \_\_\_\_\_

Illness and Dates \_\_\_\_\_

Illness and Dates \_\_\_\_\_

FAMILY HISTORY

Please list your family history of various problems, such as diabetes, heart disease, high blood pressure, stroke, cancer, bleeding disorders, tuberculosis, gout, arthritis, kidney disease, convulsive disorders, suicide or other problems:

Father: If living, give age \_\_\_\_\_ Health problems \_\_\_\_\_

If deceased, age at death \_\_\_\_\_ Cause \_\_\_\_\_

Mother: If living, give age \_\_\_\_\_ Health problems \_\_\_\_\_

If deceased, age at death \_\_\_\_\_ Cause \_\_\_\_\_

Siblings: Total \_\_\_\_\_ Number deceased \_\_\_\_\_ Cause of death \_\_\_\_\_

Children: Total \_\_\_\_\_ Ages \_\_\_\_\_ Illnesses \_\_\_\_\_

SYMPTOM REVIEW: Check any symptom you have and comment as needed.

**General**

Weakness  Weight loss  Feel bad  Loss of drive  Unexplained weight gain  Dryness (skin, hair, nails)

**Head and Neck**

Thyroid problems  Neck pain  Headaches (when, where, type of pain)  Hoarseness

**Eyes**

Vision problems  Pain  Double vision  Dry eyes

**Ears, Nose, Throat**

Hearing loss  Ringing in ears  Sinus  Dizziness  Difficulty swallowing  Hoarseness  Hay fever

**Lungs**

Shortness of breath  Wheezing  Asthma

**Heart**

Palpitations  Abnormal pulse  Swollen ankles  Exercise intolerance  Leg cramps  High cholesterol

Shortness of breath at night or with exercise  Abnormal EKG  History of elevated blood pressure

**Gastro-Intestinal System**

- Abdominal pain    Appetite change    Gas    Bloating    Diarrhea    Change in bowel habits
- Food intolerance    Blood in stool    Gall bladder disorder    Heartburn    Constipation    Hemorrhoids
- Ulcers    Use of laxatives

**Urinary Tract**

- Up at night to urinate – How often?\_\_\_\_\_    Kidney cyst    Loss of bladder control    Blood in urine    Pain
- Increased urinary frequency    Infections    Stones

**Endocrine**

- Diabetes    Surgery of thyroid gland    Graves disease    Pernicious anemia    Cold hands and feet
- History of head or neck irradiation    Family history of thyroid disease    Use of lithium    Pale looking
- History of ADD

**Female Genitalia**

- Lack of sex drive and function    Hot flashes    Breast pain    Breast lump    Cold intolerance
- Nodules of breast    History of breast cancer    Cyclic breast pain that is worse before a period
- Date of last menstrual period\_\_\_\_\_   Abnormal periods: Painful   Long   Short   Heavy

**Muscular Skeletal Joints**

- Arthritis (where/when)\_\_\_\_\_
- Back pain, joint pain, and muscle pain in all the body (diagnosed as fibromyalgia)
- Unusual fatigue    Swollen joints

**Neurological**

- Headaches    Seizures    Stroke    Forgetfulness    Dizziness    Anxiety    Depression    Migraine
- Tension    Crying spells    Sleep problems    Black out    Panic attacks    Personality changes
- Difficulty concentrating and learning

**OTHER INFORMATION YOU WISH THE DOCTOR TO KNOW**

How did your main symptoms begin?

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## Hertoghe Oxytocin Assessment (Questionnaire #1)

Please fill out the questionnaire below.

Do you show/feel the following:	No Never (0)	Slight Rarely (+/-)	Moderate Regularly (+)	Plenty Often (++)	Maximum Always (+++)	SCORE
Happiness	1	2	3	4	5	
Warm Feelings for Other People	1	2	3	4	5	
Social Interactions	1	2	3	4	5	
Easily Touch Other People	1	2	3	4	5	
Fall in Love	1	2	3	4	5	
Food Satisfaction / Fullness at Meals	1	2	3	4	5	
Lubrication (Mucous Secretions) of Glans Pens (Men) or Vagina (Women) During Sexual Foreplay	1	2	3	4	5	
Men: Ejaculations Women: Orgasms	1	2	3	4	5	
Dependence On Others' Opinion	1	2	3	5	7	
Possessiveness of Loved One	1	2	3	5	7	
Jealousy	1	2	3	5	7	
Fear When Left Alone	1	2	3	5	7	
Pale Face That Never Flushes	5	4	3	2	1	
Stressed	5	4	3	2	1	
Aggressiveness, Irritability	5	4	3	2	1	
Muscle-Tendon Pains	5	4	3	2	1	
Social Isolation	5	4	3	2	1	
Give the Impression That Others Easily Bother You	5	4	3	2	1	
Detached From Others	5	4	3	2	1	
Experience the World as a Cold, Not Funny Place	5	4	3	2	1	
TOTAL SCORE						

This information comes from Dr. Thierry Hertoghe's book, *Passion, Sex, and Long Life - the Incredible Oxytocin Adventure*, ISBN 978-2-9599713-4-1, January 2010, Luxemburg, by International Medical Books/Archimedial, 4B Route d'Arlon, L-8399, Windhof, Luxemburg  
The book is available for sale at Belmar Pharmacy for \$50.

### Interpretation of the Oxytocin Assessment

Results used as a SCORE to screen for oxytocin insufficiency

Score	Oxytocin Status	Therapy
0-25	Severe Deficit	Urgent intervention: oxytocin tablets, or injections in case of fibromyalgia.
25-49	Deficit	Take daily oxytocin tablets.
50-65	Suboptimal Level	Possible aid through natural ways (touching, hugging, singing, meeting people, etc.) to increase oxytocin; oxytocin tablets are often necessary daily or on occasions.
66-81	Optimal Level	No treatment is necessary, except occasionally to enhance sexual interactions or to improve social relations.
82-97	High Level	High levels may not hurt if no excessive negative feelings such as dependence and jealousy are involved.
98-108	Excess (Rare)	Above 100: intervention with an oxytocin blocker, such as naloxone, may be necessary.

## Hertoghe Oxytocin Physical Exam (Questionnaire #2)

Please fill out the questionnaire below.

Do you present the following:	Absent Never (0)	Few Rare (+/-)	Moderately Present Regularly (+)	Many Areas Often (++)	All Over Always (+++)	SCORE
Smile (a Real Joyful Smile)	1	2	3	4	5	
Flush in the Face	1	2	3	4	5	
Relaxed Body	1	2	3	4	5	
Body that Easily Expresses Emotion	1	2	3	5	7	
Pale Face	5	4	3	2	1	
Face: Tensed Muscles	5	4	3	2	1	
Tiny Wrinkles on Skin Surface (Lack Water)	5	4	3	2	1	
Tensed Muscles	5	4	3	2	1	
Painful Tendons (Points Where Muscles Attach to Bones) at Pressure	5	4	3	2	1	
<b>TOTAL SCORE</b>						

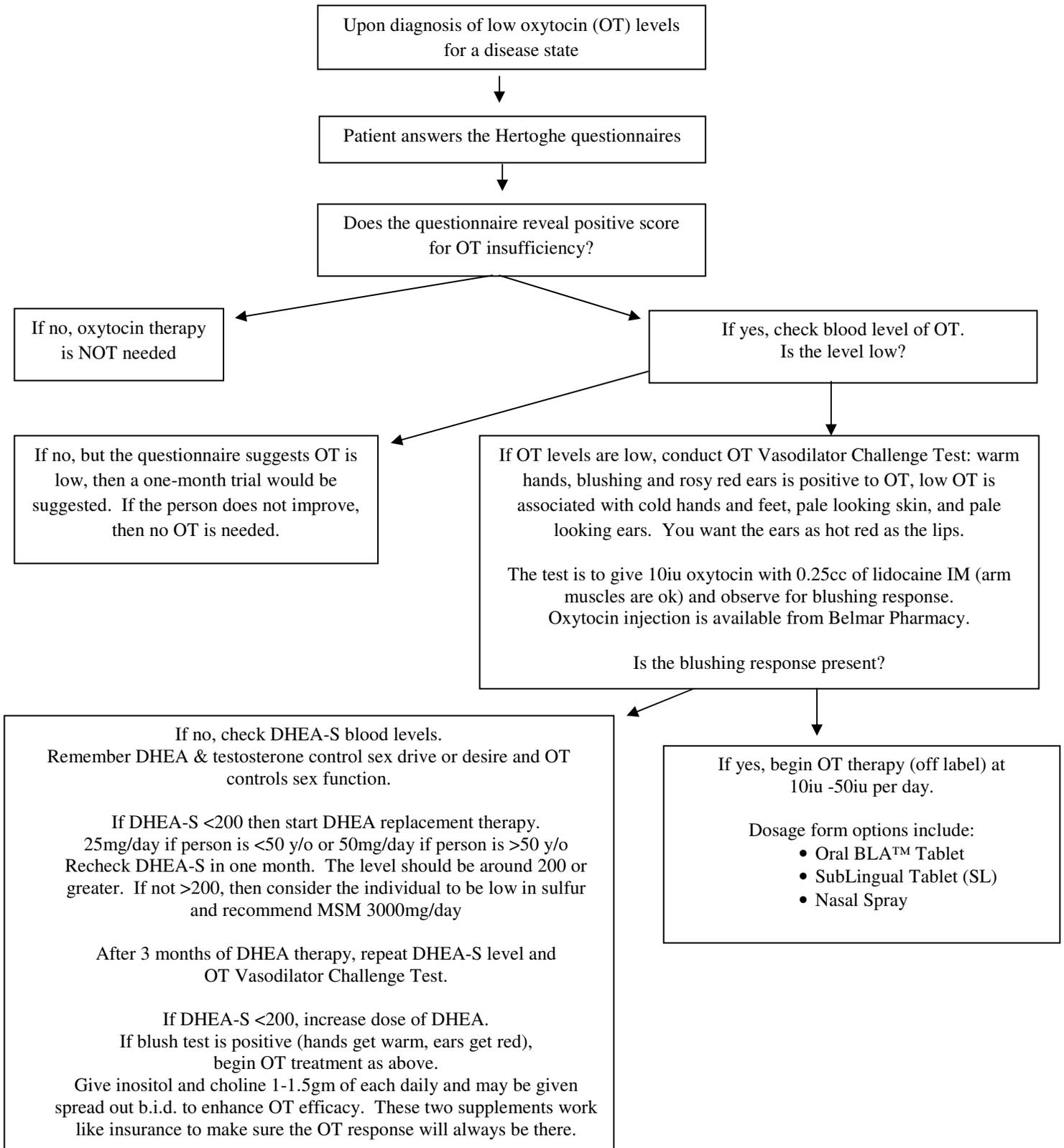
This information comes from Dr. Thierry Hertoghe's book, *Passion, Sex, and Long Life - the Incredible Oxytocin Adventure*, ISBN 978-2-9599713-4-1, January 2010, Luxemburg, by International Medical Books/Archimedial, 4B Route d'Arlon, L-8399, Windhof, Luxemborg. The book is available for sale at Belmar Pharmacy for \$50.

### Interpretation of the Oxytocin Physical Exam

Results used as a SCORE to screen for oxytocin insufficiency

Score	Oxytocin Status	Therapy
9-18	Severe Deficit	Urgent intervention: oxytocin tablets, or injections in case of fibromyalgia.
19-27	Deficit	Take daily oxytocin tablets.
28-31	Suboptimal Level	Possible aid through natural ways (touching, hugging, singing, meeting people, etc.) to increase oxytocin; oxytocin tablets are often necessary daily or on occasions.
32-41	Possibly Adequate Level	No treatment is necessary, except occasionally to enhance sexual interactions or to improve social relations.
42-44	High Level	High levels may not hurt if no annoying genital secretions are involved.
45-47	Excess (Rare)	Above 100: intervention with an oxytocin blocker, such as naloxone, may be necessary.

## An Algorithm on Oxytocin Prepared by Belmar Pharmacy



## How to Dose Oxytocin in Autistic Children

Check blood level of OT and be sure the Hertoghe questionnaire is filled out.

If OT level is adequate, but the questionnaire suggests OT is low, then a one-month trial would be suggested. If the person does not improve, consider giving inositol and choline 1-1.5gm of each daily and these may be given spread out b.i.d. to enhance OT efficacy. These two supplements work like insurance to make sure the OT response will always be there. If no patient improvement after two-week trial with the addition of inositol and choline, then do not give oxytocin.

If the plasma level is low and the questionnaire suggests OT is low, then begin OT treatment.

If the plasma level is ok and the questionnaire does not suggest low oxytocin, then do not give OT.

Treatment is with supplemental OT:

- Oral BLA™ Tablet 10iu-50iu per day (preferred dosage form)
  - The oral tablet raises OT plasma levels significantly over 8-12 hour duration.
- SubLingual Tablet 10iu-50iu per day
  - The SL tablet raises OT plasma levels within 15-30 minutes and has a short duration (<4 hours)
- Nasal Spray 5iu-50iu per day
  - The nasal spray is rapid onset and short duration

For responders who fade in clinical response at some point:

Challenge with high dose choline/inositol orally

- 1-1.5gm of each daily up to 3 times daily
- These two items seem to reset the OT pathway for efficacy

## How to Dose Oxytocin for Sexual Function

Check blood level of OT and be sure the Hertoghe questionnaires are filled out.

If OT level is adequate, but the questionnaire suggests OT is low, then a one-month trial would be suggested. If the person does not improve, consider giving inositol and choline 1-1.5gm of each daily and these may be given spread out b.i.d. to enhance OT efficacy. These two supplements work like insurance to make sure the OT response will always be there. If no patient improvement after two-week trial, then do not give oxytocin.

If the plasma level is low and the questionnaire suggests OT is low, then begin OT treatment.

Oral BLA™ Oxytocin Tablets may be used daily or on days when intimacy is desired.

Dose OT 10iu-50iu oral BLA™ Tablets daily or OT 10iu-50iu SubLingual Tablets 30-60 minutes before activity.

Note: 30iu is an average dose used clinically.

## Belmar Pharmacy's Dosage Form Options for Oxytocin

Oral BLA™ (Bio-Available Lymphatic Absorption) Tablets: 10iu, 15iu, 20iu, 25iu, 30iu, 40iu, 50iu, 60iu

SubLingual Tablet: 10iu, 20iu, 25iu, 30iu, 40iu, 50iu

Nasal Spray: 4iu/ml, 10iu/ml, 20iu/ml, 25iu/ml, 30iu/ml, 40iu/ml, 50iu/ml, 60iu/ml, 80iu/ml

Each actuation of the metered sprayer provides approximately 0.1ml.

There is a 14 day beyond use date on nasal sprays.

Injection: 10iu/ml – 1ml vials – sold in boxes of 25 vials

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