

Newsletter Vol. 2

Vol. 2 No. 3

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Our goal is that every woman facing an unplanned pregnancy has the support she needs to make a hopeful, courageous choice for life!

Amber Roseboom

Next Meeting: May 12, 2025, 7 pm

New Hope Family Church 201 W Michigan Ave Paw Paw MI

Upcoming Events in 2025

June 14–Father's Day Bake Sale Harding's, Bangor

July 13–19 Van Buren County Youth Fair

September 5–7 Paw Paw Wine and Harvest Festival

October 13- Annual Dinner Paw Paw Knights of Columbus Hall

November 6–March for Life Lansing



Van Buren County Right to Life P. O. Box 88 Lawrence MI 49064

LOOKING INSIDE –A PRIMER ON HOW OUR HEALTHY BODIES WORK

By Jack Bley

Jack is a retired veterinarian with 30 years of large animal, military and pharmaceutical industry experience and also a professor emeritus who taught biology and human physiology at KVCC for thirteen years.

THE CAPTAIN OF OUR SHIP, PART 2

For such a small piece of our anatomy, the hypothalamus is the busiest of all our parts. As was hopefully made clear in the last installment, it can be called the "captain of the ship" because it has so many responsibilities maintaining the balance of our physiology and our conscious and subconscious behaviors, our HOMEO-STASIS. It is also the bridge (another nautical image, for sure) between the nervous and endocrine systems.

Before we continue to look at how the hypothalamus contributes to sexual reproduction and behavior, to our sex drive and to all that goes into making babies, here are some of its other jobs: hunger, thirst, water balance, blood pressure, mood, anger, stress, body temperature, daily or circadian rhythm, fight or flight responses, growth and more. The mechanisms of providing the hypothalamus with information are twofold: thru the lower portion of the brain called the thalamus via nerves, and from all over the body

The Captain of Our Ship-Continued

via the blood.

The primary responses to the many bits of information that are received are through a mechanism called "negative feedback" or better, negative feedback inhibition. Unfortunately, this term seems to have a bad connotation because of the words "negative" and "inhibition," but if you imagine yourself reversing course should you discover that you are heading in the wrong direction, then the change can be looked at as being negative, or opposite, to the former direction. You are thus inhibited from going too far the wrong way. This course change will restore normal. Once again, think about what happens in your home when the thermostat senses it is getting too cold, and it sends a message to the furnace to kick in and send heat to get the house temperature back to the comfortable "set point" you desire.

Of course, there will be "wiggle room" within a range around normal, and the narrower the range, the better the control around the set point. So, on a cold day, when our body temperature goes down, temperature sensors throughout our bodies sense the change and send a message to the captain on the bridge. Next, the captain, the hypothalamus integrator, receives the message that it is getting colder, and thru the pituitary gland, sends a chemical order to the thyroid gland in the neck via the blood. The thyroid gland releases an effector hormone, a chemical message called thyroxine that tells our cells to produce more heat. PLUS nervous messages are sent rapidly to the effectors of shivering skeletal muscles and blood shunting vessels, which will work to raise and restore normal body temperature. All this is happening automatically while you are made aware thru sensory information going to your brain that it is cold and you can make a conscious decision to button up your coat. (Later, we will see that a healthy thyroid gland is also necessary for successful reproduction.)

The hypothalamus is intimately connected via a narrow stalk to the pituitary gland which is an

amazing pea-sized double gland which is often called the body's master gland. It actually, however, does the bidding of the hypothalamus via both nerves and the blood. In the male the hypothalamus thru the pituitary controls the secretion of testosterone, a powerful androgenic hormone that controls aggression, sex drive and the anatomy of the male. The female hypothalamus controls a much more complex system of hormones, estrogen and progesterone, involved in the monthly female reproductive cycle and pregnancy. Two additional hormones from the pituitary, prolactin and oxytocin, are involved in making and releasing mother's milk and in the most beautiful of all human bonds, that of the mother and her baby. (Oxytocin is my favorite hormone, so there will be an exclusive installment on it alone later in this series.)

All of these specimens of anatomy we have been discussing are measurably dimorphic due to both genetic and hormonal influences. That is, they have different weights and shapes depending upon whether they are in the male or female, Even the brain is dimorphic from before birth. Thus, not only are the obvious and observable organs which we associate with two genders-the gonads (testicles or ovaries) and the secondary sex characteristics (mammary glands or phallus)-uniquely boy or girl, but every cell in the body is built and behaves based upon whether or not its chromosomes contain either the female XX or the male XY set of sex chromosomes.

Yes, there are unfortunate but rare cases of sex chromosomal abnormalities and of hormonal accidents of malfunction in the womb which may cause sex anomalies, and there is the psychological confusion which is called gender dysphoria, but for the rest of this series, the emphasis will be on the overwhelming majority of folks who will be called normal. That is not meant to offend, but to clarify, so that you can appreciate the plan as it has been declared in the beginning of Genesis: And God said "It is very good."