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This Is America

Hor-Moans: The Miraculous and Messy Science of Endocrinology

Hormones play a pivotal role in human health. How do they do it?

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In a lecture delivered at the Royal College of London in 1905, Ernest Starling explained the results of the gland research he had conducted with William Bayliss. Chemical messengers, “or hormones (from ὁρμάω, I excite or arouse), as we may call them,” Starling declared, are substances secreted by a gland that travels via the blood to a distant site, where they help keep the body in balance.

Hormones, we now know, control growth, metabolism, lactation, mood swings, the immune system, mating, puberty, parenting, and sex. They can get us back to normal or cause us lots of trouble. And there’s a whole lot we still don’t know about them.

Source: Pixabay
In *Aroused*, Randi Hutter Epstein, who holds an M.D. and a Masters in Public Health, and is the author of *Get Me Out: A History of Childbirth from the Garden of Eden to the Sperm Bank*, provides a fascinating account of the history and science of hormones. Hutter Epstein is a whale of a storyteller, with a treasure trove of engaging and informative stories to tell. *Aroused* is medical journalism at its best.

*Aroused* documents the triumphs of endocrinology. Scientists, Hutter Epstein reminds us, identified the thyroid hormone that addressed the defective adrenal glands spurring Addison’s Disease. With wit and empathy, she puts a human face on pioneers in endocrinology and individuals looking for hormonal relief for a variety of physical and emotional ills.

Before – and after – Rosalyn Yalow won the Nobel Prize for inventing radioimmunoassay, a technique that measures hormones to the billionth of a gram, Hutter Epstein reveals, she had to overcome discrimination against female researchers. Born in 1956, Brian Sullivan, Hutter Epstein indicates, was like other babies “by every measure except genital appearance.” Doctors amputated the clitoris inside Brian’s abdomen, without telling his parents, and then, in essence, ordered them to “transform” Brian into Bonnie.

Hutter Epstein also documents the exploitation of endocrinology by charlatans hawking false remedies. In the 1920s, she indicates, they peddled hormones as cures for hemorrhoids, vomiting, seasickness, epilepsy, cholera, tuberculosis, asthma, and a boatload of other ailments. Men lined up for vasectomies, believing the operation would make them stronger, wiser, and sexier. For decades, Hutter Epstein writes, “estrogen was synthesized and sold to women as an elixir of youth, and repackaged as a preventer of disease.”

In many respects, *Aroused* is a cautionary tale. Studies which found that oxytocin fosters trust, love, and bonds between mothers and newborns, Hutter Epstein suggests, have tended to be small, sloppy, and/or biased, producing results subsequent investigators could not replicate. Studies showing that oxytocin does not have a significant impact on behavior were rarely published, in part because journal editors prefer positive findings.

Flip-flops by experts and “endopreneurs,” on estrogen and testosterone, Hutter Epstein maintains, “highlight the ever-present uncertainty in medicine.” Scientists are not fickle, she writes, “although it may sometimes seem that way. They are making judgments based on the latest information, a set of data that continues to bump along.”

Some challenges and choices, including transgender identities and transitions, she implies, are better addressed by “a community of activists, investigators, and clinicians” than by laboratory scientists.

Nearly a hundred years ago, Hutter Epstein notes, in a speech to the American Medical Association, neurosurgeon Harvey Cushing conceded “We find ourselves on a fog-bound and poorly charted sea of endocrinology. It’s easy to lose our bearings for we have, most of us, little knowledge of the seafaring and only a vague idea of our destinations.”

A good deal of the fog has lifted, Hutter Epstein concludes. Although by no means “crystal clear,” the field of vision for endocrinology is “less murky.” Researchers are far better able to identify hormone-making genes, and test their impact on diseases and disorders. Hutter Epstein
claims as well that consumers, “inoculated with a healthy skepticism” are more discerning about the “chemical tugs that make us yearning, moody, hungry, people.”

Here’s hoping she’s right.