

Growing beyond Adversity by Dr. Jerilynn C Prior

CeMCOR, International Women's Day, 2019

Looking out my bedroom window one morning while meditatively listening to "Choral Concert," I suddenly focused on the ivy boldly growing up our neighbor's chimney. I have seen that ivy cut down dozens of times, yet still it re-grows. . . .

That reminds me of a song I sing to myself when times are tough:

"That Cause can never be lost nor stayed

That takes the course of what God has made;

It is not trusting in Walls nor Towers,

But slowly growing from seed to flowers." Unknown provenance

The deep green ivy waving in a slight breeze makes me ever more clear about the growing influence of the Centre for Menstrual Cycle and Ovulation Research (CeMCOR) this International Women's Day.

CeMCOR will eventually change the way that we, as women, and Science/Medicine understand the profound health implications of women's ovulatory menstrual cycles.

Regular menstrual cycles are the outward sign of having enough *estrogen*. However, silently, within those predictable, non-troublesome periods is *ovulation or not*. Only after egg-release or ovulation does the ovary make *progesterone*, estrogen's important partner hormone.

CeMCOR has discovered that, if ovulation is *repeatedly* disturbed (often by the everyday life stresses that are unique to women in our roles within this culture), the imbalance of estrogen and progesterone then leads to bone loss and eventual osteoporotic fractures, heart attacks in our 50s and 60s, and increased risks for breast, endometrial and likely ovarian cancers.

The world is increasingly hearing, during this last year, CeMCOR's message about the importance of ovulation and progesterone to Women's Health.

I would like to share some of our successes:

- ❖ I won The Aubrey J. Tingle (BC Clinician-Scientist Award) for my work on Women's Health with CeMCOR. I am the 10th winner (and only the second woman in this award's 10 years). https://www.msfhr.org/news/msfhr-news/jerilynn-prior-2019-ajt-prize
 This award provides credibility for CeMCOR's research. It also allows me a unique "voice" to speak our truth to powerful people and organizations that have previously neglected, ignored or opposed us.
- We showed that adolescent women using "the Pill" (combined hormonal contraception, CHC) experience significant and clinically important spinal bone loss at

a time of life when they should be growing to a peak of bone density and strength. We published a meta-analysis (meaning combining and creating blended results) of studies from around the world showing two-year spinal bone loss in teenaged women users of CHC from Brazil to China and the USA to Canada compared to their non-using local control adolescents. A CeMCOR donor has paid the \$5,400.00 "article processing fee" to make this important paper freely accessible. Here it is: https://onlinelibrary.wiley.com/doi/epdf/10.1111/cen.13932.

- ❖ We have finally published a review of "Progesterone for the Prevention and Treatment of Osteoporosis." My review integrates research studies published over 25 years that together show:
 - o progesterone is women's bone formation-stimulating hormone
 - progesterone must work with estrogen, bone's loss-preventing hormone, or another anti-resorptive osteoporosis medicine, to be effective treatment for osteoporosis in menopausal women

However, many scientists have not yet accepted this information; "bone specialists" still rarely integrate this knowledge into clinical practice. You can read it here: https://www.tandfonline.com/doi/pdf/10.1080/13697137.2018.1467400?needAccess=true

- ❖ Using national population-based information from women in the Canadian Multicentre Osteoporosis Study (CaMOS, www.camos.org), we surprisingly found that women who reported having important problems with unwanted facial hair and acne (and went to a doctor) were at *increased* risk for spinal bone loss. Usually we think of higher maletype hormones as being good for bone. This new information *means that women with Polycystic Ovary Syndrome may be at increased risk for osteoporosis*. We also confirmed that those with many skipped periods (amenorrhea) or a late age at first period (more than 15 or 16 years) are at increased osteoporosis risk. You can read this paper: https://www.mdpi.com/1660-4601/15/5/1023
- ❖ We are launching a <u>Professorship in Women's Health in Endocrinology</u> so that the important work on CeMCOR will continue.

Why is that necessary? Because, as it stands, CeMCOR receives almost no institutional funding (beyond my University of British Columbia [UBC] salary and the offices and lab we earn through grant funding). UBC's Faculty of Medicine, in managing a budgetary shortfall, is not replacing retiring professors (and, if there are replacements, they are only Assistant Professors). So, currently, CeMCOR is managing to produce all that we do with \$50-75,000/year of donor funding.

CeMCOR's research MUST continue. . . .

CeMCOR's research is important. The Michael Smith Foundation for Health Research recently confirmed this by giving me the Aubrey Tingle Prize. But, ovulatory disturbances are silent—

- We must develop an easy and inexpensive way that women can document ovulation cycle-by-cycle over many years.
- We must do the randomized controlled clinical trials to prove that cyclic progesterone therapy prevents bone loss in women with abnormal cycles and disturbed ovulation.
- We must perform the placebo-controlled progesterone trials with usual antiresorptive osteoporosis drugs to show whether, as we predict, bone strength will be increased and fractures decreased when progesterone is also taken.
- We must continue to explore the relationships of normal estrogen but low progesterone levels with women's cardiovascular and metabolic health.
- Finally, given that women with progesterone-receptor positive breast cancers have a better prognosis, we must expand the work, now being started, to show that cyclic progesterone, in women with chronically ovulatory disturbed cycles, has the potential to protect against breast as well as endometrial cancer.

Be part of this positive change by telling other women about CeMCOR and sending them to the CeMCOR website (www.cemcor.ca) that garners 3,500-5,000 page-views a day from >180 countries. Please also buy the second edition of our scientifically accurate and incredibly supportive novel about women struggling in perimenopause—Estrogen's Storm Season—stories of perimenopause on Amazon Kindle or Google Play Books (already translated into Portuguese and soon to be available in French). And, also, urge those you know who could, to make major donations to the CeMCOR Professorship. Finally, donate as little or as much as you can.

Thank you in advance for all you are already doing for Women and Women's Health!