



# THE EDITOR'S DESK

## Science and Clinical Potpourri for Your Life and Your Practice

### Treating Cancer of the Cervix: Minimally Invasive Radical Hysterectomy May Not Be the Way to Go

*N Eng J Med*, Oct. 31, 2018.



Two recent studies warn against minimally invasive surgery to treat cervical cancer. The first was strong in its methodological approach; 319 patients were assigned to undergo minimally invasive surgery (MIS) and 312 patients assigned to receive open surgery (OS) for their cervical cancer in this randomized trial. The primary outcome was disease-free survival at 4.5 years. Patients in the MIS hysterectomy group had lower rates of disease-free survival and overall survival than the OS group. The rate of disease-free survival at 4.5 years was 86% in the minimally invasive group and 96.5% in the open surgery group.

The second study used information archived from national databases to compare the outcomes of both surgical procedures involving 2,461 women. At year four of follow-up 9.1% of the MIS group had died, compared with 5.3% who underwent the OS procedure.

The results were quite surprising not only to the investigators, but also to national authorities that opined on the findings. Theories are being proposed as to what might

account for the findings, one being that instruments passed through the cervix during the MIS approach may spread cancerous cells, another suggests that carbon dioxide gas used in the MIS approach may somehow facilitate the invasion of cancer cells into healthy tissue.

Some hospitals, the renowned MD Anderson Cancer Hospital being a case in point, apparently have abandoned the MIS approach for radical hysterectomy. Certainly this new research sheds light on an extremely important area and will hopefully prompt a dialogue between patient and doctor regarding the best treatment approach.

### Cellphone Radiation and Cancer Risk: New Information (Warning! Rat Study!)

US Dept Health & Human Services, announcement, Nov. 1, 2018.



The National Toxicology Program concluded that there is clear evidence that male rats exposed to high levels of radio frequency radiation, such as what is emitted from 2G and 3G cellphones, developed cancerous tumors. The researchers noted that the studies cautioned that precise comparisons to humans should be avoided. They also noted that while rats received total body exposure, humans are exposed in a way that concentrates the radiation to a particular part of the body, usually the brain.

The researchers were adamant in their describing the link between radio frequency radiation and tumor formation as “real.” The cluster of

studies presented were done at a cost of \$30 million that took place over a 10-year period.

This is not a new discussion, in fact for decades health experts have discussed and struggled to determine whether there is a real relationship between cellphone use and cancer. While the investigators were not hesitant in reporting that their results are compelling, careful reading of the studies, though clearly positive, found relatively modest evidence that the radio waves from some types of cellphones could raise the risk that male rats develop cancerous lesions in brain tissue. In addition, the exposure levels and time of exposure were far greater than what we normally encounter in our cellphone use.

So, where are we now? Recently experts from both academic and industrial sectors have reviewed the work and have commented that while we must be careful in directly extrapolating rodent research to humans, there is enough evidence that we should make efforts to reduce radiation output from these devices.

### Human Trafficking: An International Concern and What One Organization Is Spearheading to Identify Victims

Catholic Health Initiatives, American Hospital Association Website.



For the first time 29 new ICD-10 codes are now available to allow providers to identify and assist victims of human trafficking and to allow coding professionals to translate that

information into data that will provide greater insights into the problem. Violence in any form is unacceptable, and the many forms that it can take is a major domestic and international public health concern.

The idea that human trafficking is “hiding in plain sight” implies that its victims are seeking care; the challenge is to identify them. Some health systems, such as Massachusetts General Hospital in Boston, have established formal Human Trafficking Initiatives whereby institutions assume a leadership role in identifying victims, providing appropriate care and referral, and raising awareness about the issues.

The use of the codes will strengthen data collection regarding the health and social outcomes of human trafficking and inform the development of resources and services. The result will hopefully make them better equipped to respond to the profound trauma associated with this underreported, and abhorrent criminal act.

Catholic Health Initiatives has been a leader in tackling head-on, major societal challenges, including workplace violence prevention, youth violence identification and intervention, firearm safety, and a host of others. For more information and to better understand the issues and the new ICD-10 codes, visit the American Hospital Association’s or the Catholic Health Initiatives’ websites.

### Appendix Out.... Lower Risk of Parkinson’s Disease?

Science Translational Research. Oct. 31, 2018.



Think back to your early physiology and pharmacology courses where you first heard about protein folding. Now think of a particular misfolded protein, alpha-synuclein, a pathological hallmark of Parkinson disease. New research reveals that the appendix contains

an abundance of misfolded alpha-synuclein and that removal of the appendix decreased the risk of developing Parkinson disease.

The idea is not totally new as it has been suggested previously that the accumulation of aggregated alpha-synuclein may begin in the gastrointestinal tract. Investigators looking at very large databases observed that removal of the appendix was associated with a reduction in the rate of observed Parkinson disease. They also found that the healthy human appendix contained intraneuronal alpha-synuclein aggregates and an abundance of factors that are strongly associated with Parkinson disease.

The fundamental conclusion of the authors was that the appendix is a rich, lifelong source of misfolded alpha-synuclein and that removal of the appendix may offer some protection against the development of Parkinson disease.

It should be cautioned that the research to date only demonstrates an association between the surgical removal of the appendix and its relationship to having the disease. We should wait for future prospectively controlled studies before we start lining up for elective appendectomy.

### A Poop Vault? It’s All in the Name of Microbial Biodiversity

Science. Nov. 1, 2018.



The Global Microbiome Conservancy is an effort to identify and preserve gut bacteria from different peoples around the world. The overwhelming majority of microbiome research has focused on Western, urban populations—groups of people who tend to eat processed foods and use antibiotics. The few studies of traditional peoples have found a far more diverse gut microbiome that appears to be linked to the absence of certain diseases.

But as traditional societies experience lifestyle changes, for many

different reasons, that biodiversity is under threat. Rescuing and preserving the microbes may offer promise for disease prevention and treatment, especially for those conditions that are linked to the microbiome: asthma, allergy, obesity, and diabetes.

Interestingly, genomic data on the bacteria revealed another contrast between populations. At a recent human microbiome symposium in Germany, researchers reported on preliminary evidence that “horizontal gene transfers” between the strains living within one person are frequent enough to change the gut microbiome’s function during a lifetime. These gene transfers are more frequent in industrialized populations, they found, possibly as a result of higher environmental pressures, such as antibiotic use.

Advocates are leading an initiative to build an international storage facility modeled after the Svalbard Global Seed Vault, an underground cold storage building on a remote Norwegian island that safeguards botanical seed diversity for future generations. Just as in the seed vault, researchers, institutions, or governments could make deposits in the microbiota vault, retrieve samples, and grant others access to them. At this time the vault is purely conceptual.

There are many hurdles to doing this kind of research, beyond the obvious—

“May I please have a sample of your poop?” Obtaining material from human subjects and importing it to the United States for posterity raises ethical and legal complications.

Also, there are many with different ideas for the study’s continuance. For example, a social scientist at the University of Guelph (Canada) who specializes in the ethics of microbiome research, believes that scientists should look for ways to preserve the varied microbiomes, by helping traditional peoples retain their sovereignty and natural resources.