

IGNAZ SEMMELWEIS was a Hungarian physician who lived in the mid-1800s before the germ theory was born. Years after his death he was referred to as the “savior of mothers.” His new-fangled notion of washing hands between touching cadavers and examining pregnant women would eventually save thousands of lives. He was not the first to introduce the importance of hand washing, but he is the most well known. Perhaps this is due to the controversy and persecution that followed his statistical observations. His notion that “particles” were transferred on unwashed hands from cadavers to expectant mothers was considered ludicrous. During his time, he was referred to as an extremist. He was ridiculed and dismissed from the hospital for which he worked.

Fast-forward
over 160 years
later and
it is easy

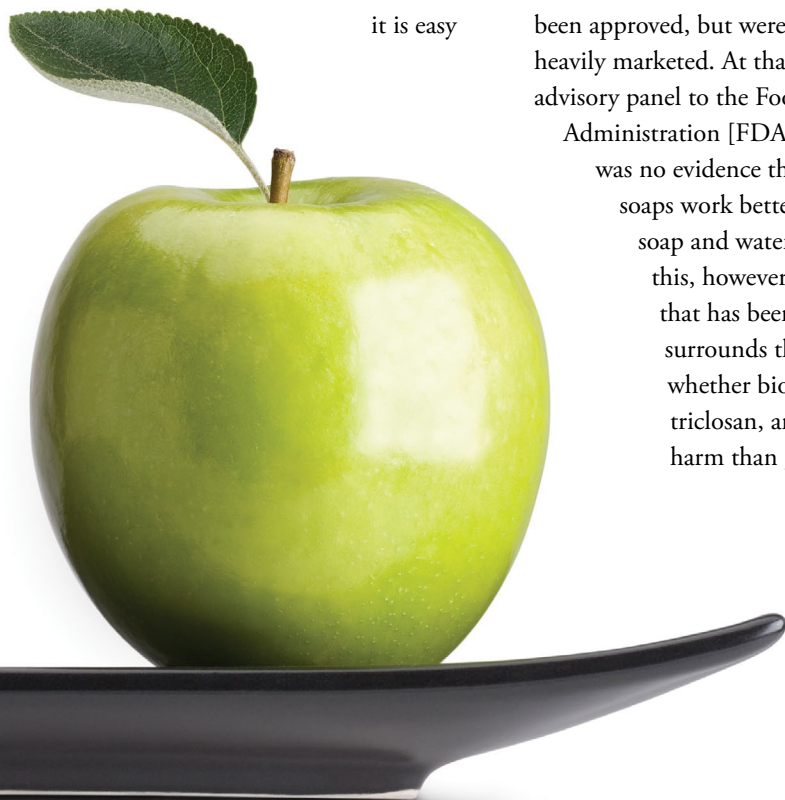
for us to look upon the subject of hand washing with apathetic, condescending eyes. Of course we wash our hands. Furthermore, we use antibacterial hand soaps, antimicrobial house cleaners, antibacterial toothpastes, and we don't go anywhere without antiseptic hand cleansers. We have disinfecting wipes at the gym and at the grocery store. Disinfectants are even interwoven in baby sheets and incorporated into plastics. We've got this! Or do we?

With our germ theory established mindsets we have enabled a billion dollar industry of personal use antimicrobials. These disinfectant products contain biocides, physical agents that kill living organisms, both disease causing and non-pathogenic. In 2005, only two active biocides were generally recognized as safe and effective, alcohol and povidone-iodine. Others such as triclosan may not have been approved, but were nonetheless heavily marketed. At that same time an advisory panel to the Food and Drug Administration [FDA] said that there was no evidence that antibacterial soaps work better than regular soap and water. More than this, however, the concern that has been raised surrounds the question of whether biocides, such as triclosan, are doing more harm than good.

Since being introduced into the market in 1972, triclosan has gotten around. It has been found in the blood after brushing teeth with antibacterial toothpaste, in urine, breast milk, and water systems around the globe. Areas where triclosan use has been discouraged, such as Sweden, have much lower concentrations than in other countries, such as Australia. “Systemic exposure to triclosan occurs following topical application” (directly on the skin) “and is also possible through indirect ingestion” (toothpastes, mouthwashes, hand to mouth).¹ For example, hand sanitizers containing triclosan that are rubbed in like lotion are absorbed into the blood and infiltrate the body.

The growing concern of how these products impact human health as well as how they impact the environment has recently spurred on the FDA to announce the need for more evidence. “Existing data raise valid concerns about the [health] effects of repetitive daily human exposure to [triclosan].”² The FDA states, “We are engaged in a comprehensive scientific and regulatory review of all the available safety and effectiveness data. This includes data relevant to the emerging safety issues of bacterial resistance and endocrine disruption due to triclosan in FDA-regulated products.”³

Observations of aquatic animals, mammals, as well as laboratory studies have raised suspicion. “Triclosan has been shown to alter endocrine function in a variety of species.”⁴ It has been found to affect both male and female hormone



function, estrogen and testosterone in rats. Thyroid hormones are also affected. “Both the Environmental Protection Agency and FDA have acknowledged the potential for triclosan to interfere with the body’s thyroid hormone, which is important for brain development and function, particularly in children. Other studies have linked triclosan to

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disrupting other hormone functions important for fertility and puberty.”⁵ In 2012, researchers from the University of California at Davis and the University of Colorado found that triclosan impairs muscle function in fish and mice and stated that the results they found show “strong evidence that triclosan could have effects on animal and human health at current levels of exposure.”⁶

Many companies are removing triclosan voluntarily. Antiseptic alternatives exist. Some are even more effective than alcohol based ones. Homemade hand sanitizers can be made with tea tree oil, or colloidal silver gels. Colloidal silver has been found to destroy fungus, molds, and bacteria including E.coli, Methicilin resistant Staphylococcus aureus (MRSA), Candida albicans, and is antiviral. Then there’s good old soap and water. While we like to think that we are beyond the need of being reminded to wash our hands, the incidence of food borne illness reminds us otherwise.

Semmelweis’ recommendation is as applicable today as it was then. Unfortunately, it was years after his death when his theory was validated. Since then there have been statues, web

sites, and museums built in his honor. There is even a reflex named after him, the Semmelweis Reflex.

The Semmelweis Reflex “is a metaphor for the reflex-like tendency to reject new evidence or new knowledge because it contradicts established norms, beliefs or paradigms.”⁷ Though named for the man who was unfortunate to feel its ire in the mid 19th century, this reflex was alive long before. I think if we look closely we will see its activity in our age as well, not just in them, but in us. How easy it is for us to, as it were, stake our claim on various issues. We can become as budgeable on those issues as the rock of Gibraltar. I believe in conviction and in taking a stand. I have strong beliefs. I don’t know about you, but not having all the facts on a subject usually doesn’t stop me from having an opinion. However, without unprejudiced open-mindedness we will fall into the same impulsive response as Semmelweis’ contemporaries.

When the Light of the world walked this planet, He was despised and rejected. Jesus knew what it was like to have His teachings and His name defamed and ridiculed because it contradicted cherished norms. He saw the prejudice, ignorance, and unwillingness to accept change. The light shone in darkness and the darkness comprehended it not . . . because men loved darkness rather than light. It is this very darkness that God is calling us out of and into His marvelous light. Jesus is saying to you and me: “I am the truth; I have the words of eternal life. If any man follows Me, he shall not walk in darkness.” Praise God for such a Leader. Praise God that by

surrendering our will to His we will be granted open-minded discernment and walk in the continuing rays of light He shines upon our path. Praise God that He has provided such a cure for the Semmelweis Reflex.

¹ “Triclosan, Supporting Information for Toxicological Evaluation by the National Toxicology Program,” U.S. FDA, DHHS, 7/08, p. 14, http://ntp.niehs.nih.gov/ntp/htdocs/Chem_Background/ExSumPdf/triclosan_508.pdf.

² “Triclosan,” Beyond Pesticides, <http://www.beyondpesticides.org/antibacterial/triclosan.php>.

³ “Triclosan; What Consumers Should Know,” U.S. FDA, 12/16/13, <http://www.fda.gov/forconsumers/consumerupdates/ucm205999.htm>.

⁴ Leah M. Zorrilla, Emily K. Gibson, Susan C. Jeffay, Kevin M. Crofton, Woodrow R. Setzer, Ralph L. Cooper, Tammy E. Stoker, “The Effects of Triclosan on Puberty and Thyroid Hormones in Male Wistar Rats,” Oxford University Press, Toxicological Sciences, 10/15/08, <http://toxsci.oxfordjournals.org/content/107/1/56.full>.

⁵ “Markey Commends FDA Action on Triclosan,” Ed Markey, United States Senator for Massachusetts, 12/16/13, <http://www.markey.senate.gov/news/press-releases/markey-commends-fda-action-on-triclosan>.

⁶ “Chemical widely used in antibacterial hand soaps may impair muscle function,” UC Davis News & Information, 8/13/12, http://news.ucdavis.edu/search/news_detail.lasso?id=10301.

⁷ “Semmelweis Reflex,” Wikipedia, 12/11/13, http://en.wikipedia.org/wiki/Semmelweis_reflex.



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