

Could Switching to the Metric System Help Keep Kids Out of the ER?

BY TARA CULP-RESSLER JULY 14, 2014

The United States remains one of just three countries in the world that doesn't use the metric system. Although a dedicated group of metric enthusiasts has been attempting to convince the U.S. to switch for years, there hasn't been much progress in this area over the past four decades. According to a new study, our decision to keep using the "English system" of measurement may cause some serious health issues.



Failing to use the metric system ends up leaving parents confused about exactly how much liquid medication to give their kids, according to new research published in the *Pediatrics* journal. Nearly 40% of parents who participated in the study measured incorrectly when they were given a prescription written for teaspoons or tablespoons. Another 40% of parents read the prescription dosage incorrectly.

Why do adults make these measurement mistakes? Busy parents multitask and can end up making errors like reading tablespoons for teaspoons (which results in tripling the prescribed dose) or using a kitchen spoon if they can't locate an actual teaspoon. Those simple mistakes can have big consequences for children. Parents make more than 10,000 annual calls to poison centers because their kids were given the wrong dosage of their own prescription or have accidentally taken other medicine.

Pharmacists sometimes make mistakes because computer default settings are often English measurements. In one case, a two-year-old child with an ear infection received a dose of antibiotics that was five times greater than she needed. The pharmacist accidentally typed a label that instructed her parents to give her 3.5 teaspoons of medicine daily instead of 3.5 mL. As a result, the child ended up suffering from diarrhea, a yeast infection, and a possible fungal infection.

But, according to the *Pediatrics* study, measuring mistakes were cut in **half** when the prescriptions were written in metric units instead. Metric measurements are easier to use because they rely on a decimal system that makes it simpler to make conversions. Instead of trying to remember how many teaspoons equal one tablespoon, the metric system is all in factors of ten. Converting between measurements simply involves moving a decimal point. The study's authors conclude that a milliliter-only standard for liquid prescription medicines could help to prevent measurement errors and trips to the ER.

Those researchers aren't the first to make this argument. The Institute for Safe Medication Practices has been calling for a switch to metric-based prescriptions for over a decade. The U.S. Food and Drug Administration and the Centers for Disease Control have also raised concerns about the use of the English system for liquid medicines. And the American Academy of Pediatrics has urged individual doctors to start writing their prescriptions in milliliters even if the U.S. doesn't make an official switch.

Using the English system could have an indirect impact on other areas of public health and medical research, too. Since the U.S. doesn't require the use of metric measurements, some people argue that it leaves Americans uninformed about advances in the medical field. "If we want to have a scientifically literate population, we should make sure that scientists and non-scientists speak the same language," the *Scientific American* magazine argued last year.