

The deuterium oxide dose-to-mother technique

Exclusive breastfeeding for 6 months, followed by the introduction of appropriate complementary foods and continued breastfeeding, is recommended by the World Health Organization and the United Nations Children's Fund as the ideal feeding practice to ensure child health.

The conventional method to measure human milk intake in lactating infants is to weigh the infant before and after each feed. This method is demanding for the mother, and the procedure may interfere with normal feeding pattern. The method may also tend to underestimate milk intake if infants are breastfed on demand, particularly at night.

The deuterium oxide dose-to-mother (DTM) technique safely measures transfer of breast milk from a lactating mother to her infant over a two-week period without interrupting normal feeding patterns. The method is also indicative of exclusive breastfeeding via the estimated intake of water from other sources than breast milk. The DTM technique can be used to calculate nutrient intake from breast milk, guide infant feeding programming, and evaluate breastfeeding promotion interventions.

The DTM technique is a non-invasive stable isotope technique pioneered by the late A. Coward and co-workers in the United Kingdom in the 1980s. To read more about the method, please see [Breast Milk Intake – Human Health Campus: Nutrition | IAEA](#).

Original reference

Coward WA, Cole TJ, Sawyer MB, Prentice AM. Breast-milk intake measurement in mixed-fed infants by administration of deuterium oxide to their mothers. *Hum Nutr Clin Nutr.* 1982;36(2):141-8.