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*C More or "C" Less*

The purpose of the experiment was to determine where vitamin c pills dissolved best to create better medicines, and to assist consumers in picking products that actually work. Five different types of vitamin c pills were dropped into four different solutions: stomach acid, duodenal fluid, mucosal membrane fluid, and distilled H<sub>2</sub>O. The hypothesis was that the non-coated pills would dissolve fastest in the duodenal fluid because vitamin c is an acid, and made to dissolve in the duodenum. Each pill was dropped into 30 mL of each solution through four trials, and observations were completed following 35 minutes, 1 day, and 1 week. None of the pills completely dissolved within 35 minutes, or even a week. The non-coated buffered remained the most consistent in its behavior throughout the trials. The non-coated dissolved the best in the mucosal membrane. The most likely reason the non-coated didn't dissolve well in the stomach acid and water is because vitamin c itself is an acid, and acids don't combine well with other acids. Though, the bases such as the mucosal membrane fluid and the duodenal fluid are bases, thus compatible for the pills to dissolve in it. The likely reason for the buffered pills' consistency, is because buffered are made to only change the pH minimally when in pure water, thus remaining the same through each solution and trial.