

Reducing Venipuncture Pain: The “Cough Trick”

Researchers in Germany have identified a “cough trick” as being an effective means of minimizing pain during venipuncture procedures. The study, published in *Anesthesia & Analgesia*, measured the pain assessments of 20 healthy adult males to a venipuncture when the needle was inserted during a solicited cough. Subjects were each drawn twice—once with the cough trick technique, once without it—at three-week intervals. Subjects were excluded if they consumed analgesics chronically, abused sedatives or alcohol, had abnormal skin conditions or a history of peripheral neuropathy or consumed alcohol the evening before the study. All subjects were drawn between 7 a.m. and 10 a.m. to minimize diurnal variations in pain tolerance. Subjects were not informed of the purpose of the study.

Prior to the draw, each of ten volunteers was placed in a supine position with a tourniquet applied to the non-dominant arm. After selecting a vein on the back of the hand, the individual performing the puncture asked the subject to turn his head in the opposite direction of the venipuncture arm and to perform a single cough of moderate intensity while maintaining the stability of their arm. Subjects were then asked to cough a second time where-

upon the venipuncture was performed to coincide with the cough. A twenty-gauge cannula was used for all draws.

Three weeks later, subjects were subjected to identical draws by the same individual, only without being prompted to cough. The sequence was reversed for the remaining ten subjects for whom the cough trick was instituted on the second venipuncture. After each draw, all subjects rated their perception of pain from 0–100 to an assessor according to a 100mm visual analog scale (VAS). Assessors also recorded each subject’s serum glucose level, incidence of hand withdrawal, palm sweating, heart rate and blood pressure.

VAS results were significantly lower in each group when the cough trick was applied (median 31 versus 46). Differences in glucose, blood pressure, heart rate, palm sweating and hand withdrawal were not statistically significant when the cough trick was performed.

The authors speculate the mechanism of pain reduction using a cough trick may relate to the well-known effects of distraction as a cognitive method of pain reduction. They further speculate the mechanism could be due to the activation of pain-inhibitory pathways due to increased pressure in the subarachnoid space during the cough.

Our video, *Mastering Pediatric Phlebotomy*, includes pain reduction strategies your staff and students can implement to reduce the anxiety and pain of pediatric venipunctures.

In addition, our download titled *Pain Reduction During Infant and Pediatric Phlebotomy* covers the following interventions, and more:

- lidocaine iontophoresis
- topical anesthetics
- assessing parental anxiety
- parental positioning
- swaddling newborns
- movies/cartoons as distraction
- explaining the procedure in advance
- patient participation in the procedure
- assessing patients’ prior experience
- minimizing exposure to procedural cues
- oral glucose/sucrose
- aromatherapy
- ethyl chloride sprays
- touch therapy

