



10/27/2009

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October, 2009 – Needle pain may be needless pain. Results in this month’s Clinical Journal of Pain describe a new over the counter device that significantly decreased the pain of intravenous line insertion using the body’s natural pain defense systems.

“Running cold water over a burned finger decreases pain,” explained Dr. Amy Baxter, primary investigator. “Since needle pain is transmitted on the same nerves, stimulating the cold and motion fibers near a needle blocks out sharpness.”

The device is simple but the science complex. “Buzzy®” combines a therapeutic massager with thin frozen ice wings. For children, the device resembles a chubby bee with a slot for distracting cards. When activated and pressed on the skin, nearby sensations are reduced through four separate physiologic mechanisms.

“While some pain relief comes from directly interfering with the peripheral nerves, there is additional inhibition coming directly from the brain to dampen sensations. Distraction will probably play a small part, but in our study we asked subjects to concentrate on what they were feeling.”

Thirty adult volunteers had an intravenous catheter placed in both hands. Half compared Buzzy® to nothing, half compared a proven rapid acting cold spray anesthetic to nothing. Buzzy® significantly decreased participants’ pain, while cold spray did not show a difference. In addition, patients in the Buzzy group had 100% IV success. Recently presented data showed greater pain relief in children, with 85% IV success in the emergency department sample.

“What’s exciting about this is that the pain relief is portable and reusable. If you know how the nerves run, you should be able to block pain from anywhere.” Dr. Baxter and colleague Dr. Lindsey Cohen currently hold funding from the National Institutes of Health to investigate immunization pain. In future studies Dr. Baxter hopes to investigate whether adolescents are more compliant with checking glucose levels using Buzzy to block fingerstick pain.

As it does not require a prescription, Dr. Baxter hopes families can fight back against needle phobia. “About 15% of adults and twice as many kids are severely afraid of needles.” Dr. Baxter noted. “Adults are reluctant to have their children vaccinated, or avoid healthcare themselves. We hope this device can increase compliance with preventative medicine.”

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