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To Avoid Pain During an Injection, Look Away

Common Advice Really Does Reduce Discomfort, Study in *PAIN*[®] Reports

Philadelphia, PA, May 14, 2012 – Health professionals commonly say, “Don’t look and it won’t hurt” before administering an injection, but is there any scientific basis for the advice? A group of German investigators has found that, in fact, your past experience with needle pricks, along with information you receive before an injection, shape your pain experience. Their research is published in the May issue of *PAIN*[®].

“Throughout our lives, we repeatedly experience that needles cause pain when pricking our skin, but situational expectations, like information given by the clinician prior to an injection, may also influence how viewing needle pricks affects pain,” says lead author Marion Höfle, a doctoral student in the research Multisensory Integration group led by Dr. Daniel Senkowski, at the Charité - Universitätsmedizin Berlin and the University Medical Center Hamburg-Eppendorf.

While watching video clips showing a needle pricking a hand, a Q-tip touching the hand, or a hand alone, study participants concurrently received painful or non-painful electrical stimuli applied to their own hand. The clips were presented on a screen located above the participants’ hand, giving the impression that the hand on the screen belonged to them.

Participants reported that their pain was more intense and more unpleasant when they viewed a needle pricking a hand than when they saw a hand alone. In addition, observing needle pricks increased the unpleasantness of pain compared to viewing Q-tip touches. These findings were paralleled by enhanced activity of the autonomic nervous system, as measured by pupil dilation responses. This demonstrates that previous painful experiences with needles enhance unpleasantness of pain when viewing needle pricks.

Situational expectations also influenced perceived pain intensity. Prior to the stimulation, participants were told that either the needle or the Q-tip clip was more likely to be associated with painful than with non-painful electrical stimulation. The researchers found that presentation of clips that were more likely to be associated with pain lead to higher pain intensity experiences than the presentation of clips that were

less likely to be associated with pain. This shows that expectations regarding the painfulness of medical treatments influence the intensity of pain that the treatment ultimately produces.

Taken together, the study reveals several important findings. "Clinicians may be advised to provide information that reduces a patient's expectation about the strength of forthcoming pain prior to an injection," Höfle notes. She further states that, "because viewing a needle prick leads to enhanced pain perception as well as to enhanced autonomic nervous system activity, we've provided empirical evidence in favor of the common advice not to look at the needle prick when receiving an injection."

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NOTES FOR EDITORS

"Viewing a needle pricking a hand that you perceive as yours enhances unpleasantness of pain," by M. Höfle, M. Hauck, A.K. Engel, and D. Senkowski (DOI: 10.1016/j.pain.2012.02.010). It appears in *PAIN*[®], Volume 153, Issue 5 (May 2012) published by Elsevier.

Full text of the articles is available to credentialed journalists upon request. Contact Christine Rullo at 215-239-3709 or painmedia@elsevier.com for copies. Journalists wishing to set up interviews should contact Marion Höfle at +49 (40) 7410 - 55856 (phone), +49 (40) 7410 - 57752 (fax), or e-mail: m.hoefle@uke.uni-hamburg.de.

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