

# Jordan University of Science and Technology

## Comparison of distress and pain in infants randomized to groups

**Authors:** Denise Hanson

**Abstract:** This randomized controlled trial compared distress and pain in healthy 4-month-old infants receiving three different immunizations either sequentially (control, n = 50) or simultaneously, two at the same time, followed by the third (experimental, n = 51). Although both groups demonstrated a significant increase in cortisol from baseline levels, the lack of significant difference on salivary cortisol between groups post-immunization suggests the study was underpowered. On NIPS scores, the experimental group demonstrated significantly less pain (Mann-Whitney U = 1648.0, p = 0.003). Simultaneous injections appeared to be effective in reducing pain behavior responses in infants receiving their 4-month immunizations. Longitudinal studies could determine whether reduced exposure to pain in infancy, through simultaneous immunization injections, could contribute to a reduction in sensitivity to pain and physiologic stress responses.