

Human limb 12 ply 37 degree dip water

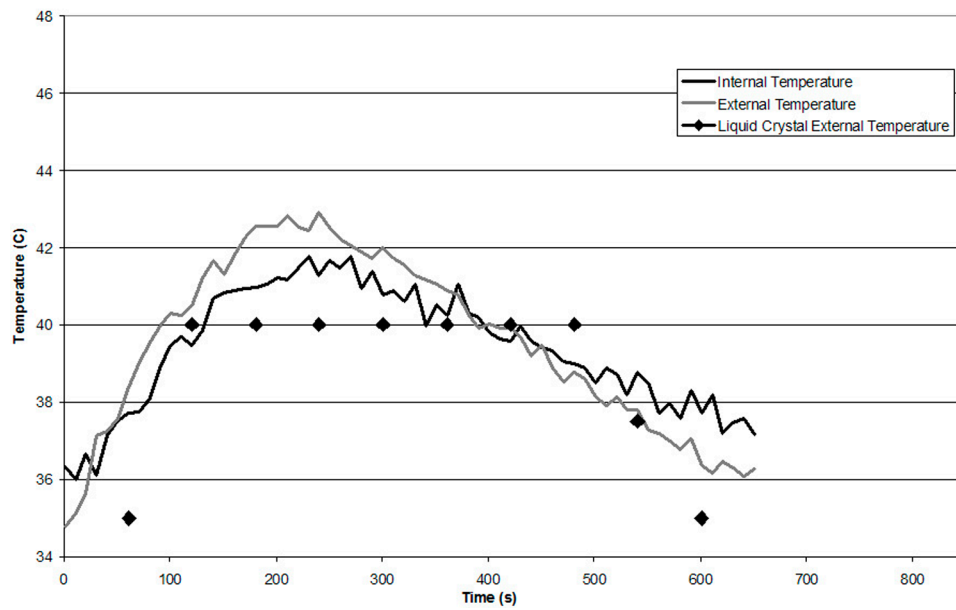


Fig. E-1

A plot of skin-surface (internal) and external cast temperatures after application of a twelve-ply plaster cast to the arm of an investigator with use of 37°C dip water.

Human Arm versus Model

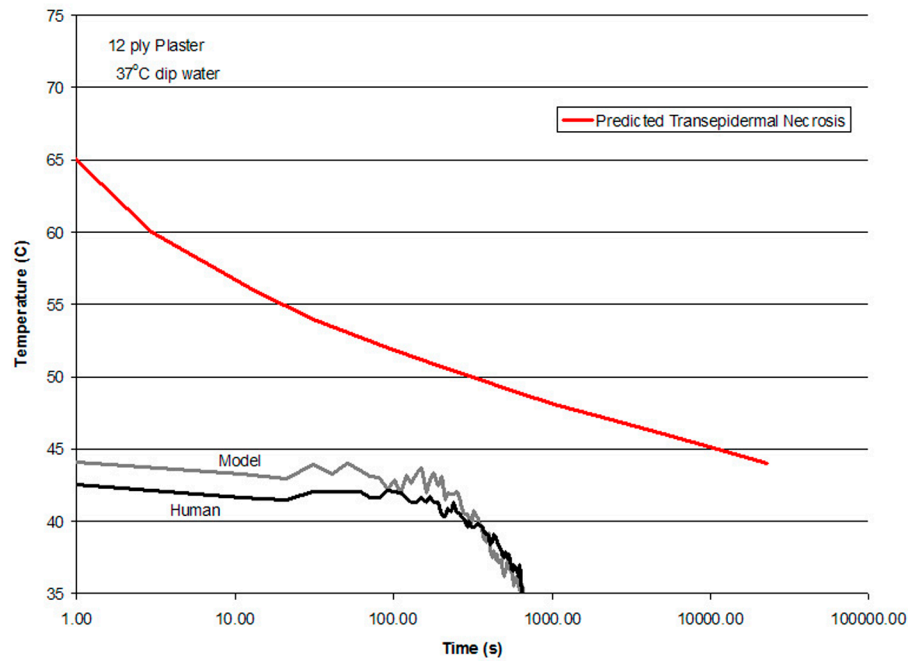


Fig. E-2

Comparison of the surfaces of the model limb and skin temperatures after application of a twelve-ply plaster cast with use of 37°C dip water.

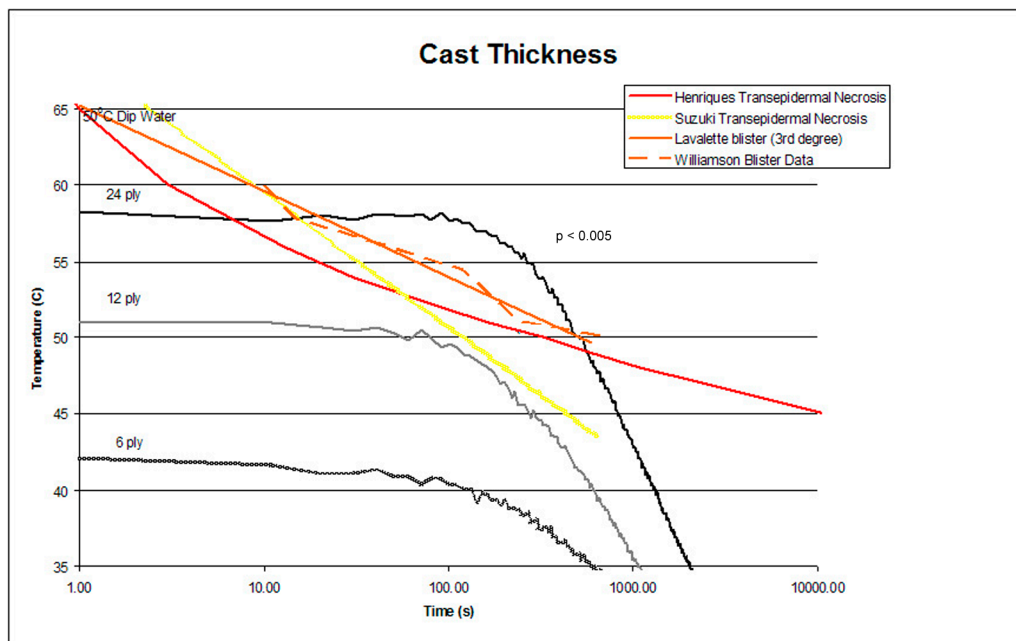


Fig. E-3

Representative plots of temperatures recorded for different cast thicknesses and a dip-water temperature of 50°C. Thermal injury would be expected if the plaster thickness is greater than twenty-four-ply. It should be noted that one run of the twelve-ply cast material crossed the Henriques reference line. This graph shows comparisons with the reference lines (T = temperature, t = time) described by:

Henriques¹⁰, calculated with equation 6 for temperature of $\leq 49^\circ$ and equations 11 and 12 for temperatures of $\geq 50^\circ$. These values can be found in Table I of Henriques' article.

Suzuki et al.⁹, calculated with the equation: $0.26T + 2.303\log t(\text{min}) = 13.7$.

Lavalette et al.², calculated with the equation: $T(C) = 55.25 - 5.61\log t(\text{min})$.

Williamson and Scholtz¹², on the basis of clinical data.