The problem:
The relief of excessive pressure buildup (hematomas) beneath fingernails and toenails caused by ruptured blood vessels is normally obtained by an involved surgical procedure. The nail area is scrubbed clean, the member is anesthetized by freezing with ethyl chloride or by digital block with a local. The nail is then pierced with a sterile drill or heated hypodermic needle, neither technique being devoid of psychological trauma on the part of the patient.

The solution:
A device, that simplifies the operative procedure, in the form of a self-contained portable instrument with an instant variable heating tip, adjustable depth settings and a variety of interchangeable tip sizes for cauterizing small areas and relieving pressurized clots.

How it's done:
The device consists of a temperature controller with integral battery and a surgical tool connected to it by appropriate wiring. The surgical tool consists of a (continued overleaf)
heating element, removable and interchangeable stain-
less steel tip, and a combination tip depth control and
switch, all contained in a plastic case.
To operate, the affected area is cleaned and coated
with a standard disinfectant but need not be anesthe-
tized. The tip is adjusted to make a penetration
through the nail but not sufficient to contact any
tissue thereunder. The heating element is activated
and, after a 3-second interval, the instrument is
brought to bear lightly on the nail above the hema-
toma. The heated tip burns easily and quickly through
the nail without noticeable discomfort to the patient
and provides instant relief.

**Note:**
This development is in conceptual stage only, and
as of date of publication of this Tech Brief, neither a
model nor prototype has been constructed.

**Patent status:**
No patent action is contemplated by NASA.
Source: L. J. Raggio and T. L. Robertson
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