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MIND-BODY CONTROL OF BLOOD FLOW
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Anecdotal accounts of the ability to affect blood flow using mind-body techniques are common. Stories range from Milton Erickson's well known account of using hypnosis to control severe bleeding in his hemophiliac son after an accident, to Martin Rossman, MD's less well known but equally dramatic story of using hypnosis in the Emergency Room with a woman to stop her hemorrhaging. However, the widespread use of techniques such as Guided Imagery and hypnosis for blood control will not be embraced by the medical community without hard science to back up the contentions.

Fortunately, several published studies present corroborating evidence. Biofeedback training, of course, has a long and well-documented history of being able to affect perfusion.

A recent study showed that biofeedback-assisted relaxation training was 87.5% effective in increasing peripheral perfusion (and, thereby, healing) in patients with foot ulcers. The field of hypnosis also has many studies related to pain management in surgery, and studies showing hypnosis' ability to affect blood flow are beginning to show up in the literature. Studies with burn patients have shown that hypnosis can significantly improve wound healing by increasing blood flow to the affected area. Subjects were able to achieve significant increases in hand warming using hypnotically-induced vasodilation. Hemodynamic measurements of systolic blood pressure, arterial blood flow, and resistance all changed appropriately when hypnotized subjects believed they were donating blood.

As an indication that these so-called autonomic functions can be patient controlled during surgery, one matched, controlled study of maxillofacial surgery patients receiving pre-, post- and/or peri-operative hypnotic suggestion had up to a 30% reduction in blood loss. The health benefits to the patient and savings to hospitals with these kinds of blood loss reductions are considerable. A further study showed that intra-operative and post-op capillary bleeding can be reduced using hypnosis, even in hemophiliac dental patients.

A most impressive study is one in which 121 patients used hypnosedation during endocrine surgical procedures. As we've come to expect from patients who use mind-body modalities, these patients needed significantly less pain medication. Of even greater implication, however, is the fact that *all* surgeons in these 121 procedures reported better operating conditions (estimated by the visual analog scale), and the researchers attributed this to reduced bleeding in the operative field. Furthermore, *no* patients were required to convert to general anesthesia during any of the procedures.

These and other factors -- high patient satisfaction, better surgical convalescence, turn beds faster, lower use of resources, fewer demands on personnel, fewer follow-up visits by physicians -- reduce the socio-economic impact of patient treatment, especially in the area of in-patient surgery.

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