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## The Ram Relaxation Technique: A Painless Biopsy Method. A Needle-free, Anesthesia-free Shave Biopsy Approach

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**Background/Objectives:** A shave biopsy is the most commonly used method in dermatology because of its efficient procedure time, the ease of wound care, and cost. Shave biopsies are used for raised lesions, in cases where the clinician is suspecting an epidermal process, or a palpable dermal neoplasm. Due to lesions having a predominantly convex and exophytic nature, the RRT can be successfully completed with minimal or no pain.

The limitations for this technique would include pigmented lesions suspicious of melanoma, which are often biopsied with elliptical excisions. Such procedures require the use of local anesthesia due to increased depth of incision.

In addition to the physical pains of a needle injection, patients often report tremendous anxiety, comparable to many invasive medical procedures. Patients may experience anxiety in anticipation of or during procedures used for screening, such as skin biopsies. This particular phobia is a subset of acute procedure anxiety and is diagnosed only when the patient's fears are targeted to the procedure and its immediate effects, such as pain and bleeding, rather than fears not particular to the procedure itself, for example the illness that is being screened or diagnosed.

**Methods:** The current study investigates alternative approaches to reduce patients' anxiety levels, and suggests that physician-guided relaxation techniques, such as deep breathing, prior to the procedure may consciously produce the body's natural relaxation response, resulting in a feeling of calmness and well-being. Previous research has confirmed that pain perception is influenced by anxiety and stress levels prior to the cognitive stressor, such as a medical procedure. Another alternative method to decrease the pain of injection is by pinching the skin area to be injected. This technique is derived from the gate control theory of pain, which declares that a non-painful sensory input effectively blocks the transmission of other painful sensations nearby. Therefore, stimulation by non-painful input is able to suppress pain. We have been able to implement both methods and have seen great results due to a decrease in anxiety levels per patient, which further leads to decreased pain perception. While it is difficult to comparatively quantify the level of anxiety felt by patients who receive injections versus those who opt for the RRT, the overwhelming responses have been highly favorable for those who forego the injection techniques. Table 1 includes all 20 patients in

the study with their location of biopsy and pain level.

**Results:** The current study is a unique approach to performing skin biopsies and illustrates the need for further investigation for its efficacy in a larger population. Overall, patients undergoing biopsies without anesthetic injection had better outcomes than those patients that received injections. Level of pain was significantly reduced, lower sense of anxiety was achieved, and accurate samples were attainable.

**Conclusion:** This Ram Relaxation Technique method has proven to be a beneficial alternative for patients that are anxious about experiencing discomforting pain, have contraindications to the anesthesia or prefer an alternative to avoid medications and injections if possible.

**Table 1**

| Patient Number | Location of Biopsy | Pain Level (0-10) |
|---|---|---|
| **1** | Nose | 0 |
| **2** | Nose | 0 |
| **3** | Nose | 0 |
| **4** | Ankle | 0 |
| **5** | Cheek | 0 |
| **6** | Neck | 0 |
| **7** | Columella | 0 |
| **8** | Left Medial Leg Above the Tibia | 0 |
| **9** | Nose | 0 |
| **10** | Left Temple | 0 |
| **11** | Chin | 0 |
| **12** | Right Forehead | 2 |
| **13** | Cheek | 2 |
| **14** | Nose | 2 |
| **15** | Right Temple | 2 |
| **16** | Cheek | 0 |
| **17** | Ear | 0 |
| **18** | Nasolabial fold | 6 |
| **19** | Nose | 0 |
| **20** | Ear | 1 |

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