

## Review

### \*Corresponding author

**Thomas White, DO**

Senior Resident of Emergency Medicine  
Department of Emergency Medicine  
Georgia Regents Medical Center  
Georgia Regents University  
Augusta, GA, USA  
E-mail: [THOWHITE@gru.edu](mailto:THOWHITE@gru.edu)

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# Debunking Medical Myths: The Eyebrow Shaving Myth

Thomas White<sup>1\*</sup> and Larry B. Mellick<sup>2</sup>

<sup>1</sup>Senior Resident of Emergency Medicine, Department of Emergency Medicine, Georgia Regents Medical Center, Georgia Regents University, Augusta, GA, USA

<sup>2</sup>Professor of Emergency Medicine, Professor of Pediatrics, Department of Emergency Medicine, Georgia Regents Medical Center, Georgia Regents University, Augusta, GA, USA

## ABSTRACT

The shaving of eyebrows has long been a clinical taboo. When a patient has a facial laceration or some other facial trauma involving or near the eyebrow, clinicians have classically been taught not to shave the eyebrow for fear that the hair will not grow back or will grow back abnormally. And, the fact that the eyebrow is so important for facial expressions and aesthetics further amplifies this concern. In this article, we briefly discuss the problem of perpetuated medical myths and discussed the outcomes of our review of the literature concerning the belief that eyebrows should never be shaved. We did not find a single article supporting this teaching in our review of the literature. Finally, we discuss other etiologies of eyebrow hair loss that may have contributed to this myth and review several more legitimate reasons for not shaving an eyebrow.

## INTRODUCTION

In the practice of medicine, there are many precepts or beliefs commonly taught whose actual validity has never been seriously questioned. Consequently, there are many medical myths that will be taught into perpetuity unless they are exposed through a careful review of the literature. Unfortunately, just as with a “good lie” a persistent myth in medicine will contain a modicum of truth. For example, consider the myth that bullous myringitis is caused by mycoplasma pneumonia or the myth that testicles torsed for greater than 6 hours are rarely salvageable. It is true that a single case of *M. pneumoniae* was reported in 1967 as having been cultured from fluid directly aspirated from a bleb.<sup>1</sup> However, subsequently, many more articles have proven that bullous myringitis is simply a component of severe acute otitis media caused by the typical agents of that condition (*S. pneumoniae*, *H. influenzae*, and *Moraxella catarrhalis*).<sup>2</sup> Likewise, while there are cases of testicular torsion presenting with dead testicles at six hours or less from onset; there are scores of reports describing hundreds of patients whose torsed testicles survived unscathed far beyond that six hour time frame.<sup>3</sup> Unfortunately, the perpetuation of myths in medicine does have very real clinical consequences.

What about the widespread teaching that eyebrows should not be shaved because of the risk that they will not grow back? In this paper we carefully reviewed the literature to assess the evidence behind this well-known and commonly taught principle.

## METHODS

The authors of this paper performed an extensive review of the literature by electronically searching the United States National Library of Medicine, National Institutes of Health literature archives using the search words, “eyebrows” and “eyebrow shaving”. Each of the 2224 titles included under the “eyebrows” search along with titles under the “eyebrow shaving” and “eyebrow regeneration” search topics were carefully reviewed for possible relevance. When articles addressing these topics were found, those articles were carefully evaluated.

## RESULTS

In our extensive and thorough review of the literature, we did not find a single article supporting the common teaching that eyebrow shaving was occasionally associated with failure of regeneration. While there are numerous conditions associated with failure of eyebrow growth, there was not a single reported case of eyebrow growth failure due to shaving. And, to the contrary, one small study with five study subjects demonstrated that shaven eyebrows will regenerate after being completely shaved off.<sup>4</sup> These patients consented to have their eyebrows shaved with follow up pictures periodically for 6 months. They had no facial trauma. The authors used two observers to analyze the final photographs, and the observers could not identify any differences between the brow which had been shaved and the control brow. This same study from 1999 also mentioned that in their literature review covering the years prior to their publication that there was no data to support abnormal eyebrow growth. Our literature review examined the same time period covered by these authors as well as the period of years since their publication.

## DISCUSSION

Eyebrows are supraorbital arched eminences of hair bearing skin which give shape and character to an individual's face. The role of eyebrows includes protecting the eyes from sweat as well as their well-known contribution to individual identity, facial recognition and communication. Eyebrow hairs have some unique characteristics. For example, unlike hair on hormone-dependent body regions (i.e., scalp, beard, chest, axilla, and pubic region) these short and stiff eyebrow hairs that grow at an angle are not androgen dependent. There are three types of hair in the eyebrow. These are the fine vellus hair; the slightly larger and lightly pigmented hair; and the large terminal hair, also known as the supercilia. The terminal hairs are curved, 5 to 10 mm long, and have a punctuate tip. And, like all other hair types eyebrow hairs go through several cyclic stages of growth and regeneration. Hair growth has three phases, the anagen phase is the active hair growth phase. This phase is short in body hair (e.g. weeks to months for eyebrow hair) but longer in scalp hair (2 to 8 years). The longer the anagen phase the longer the hair length. Second is the catagen phase where the hair is dormant and last is the telogen phase, where the follicle grows new hair and sheds the old hair shaft. Overall, eyebrows grow slower than hair on other body locations. Eyebrows reportedly grow between 0.14 to 0.16 mm per day while for comparison scalp hair grows from 0.32 to 0.41 mm per day.<sup>5</sup> Furthermore, in contrast to scalp hairs that grow faster and have a shorter resting phase, the eyebrow hairs have a shorter active growth or anagen phase, have a much smaller percentage of hairs in the anagen phase at any one time, have a relatively long resting phase and have a significantly longer shedding or telogen phase.<sup>6-8</sup>

For many years physicians have been taught in the Emergency Department, on the wards, and in the operating rooms to not shave eyebrows. And, this prohibition is currently

stated in textbooks such as Tintinalli's Emergency Medicine, "Hair should never be removed from the eyebrows or at the hair-line because potential for impaired or abnormal growth" and in surgery texts like Current Diagnosis & Treatment: Surgery, "...eyebrows should never be shaven..."<sup>9,10</sup> But, after a searching the literature available on the topic there seems to be no evidence to support such a claim and, while limited, at least some evidence to support the contrary.<sup>4</sup>

On the other hand, there are many other reasons for eyebrow hair loss. Loss of eyebrow hair is associated with a long list of conditions including but not limited to leprosy, hypothyroidism, psychotropic medications, seborrheic dermatitis, dermatophyte infections, autoimmune conditions, syphilis, neoplasms, congenital etiologies, and others.<sup>11,12</sup> It is important to keep these etiologies in mind when dealing with alopecia confined to the eyebrow.

Finally, there may be appropriate reasons for not shaving the eyebrows other than the erroneous concern that they may not grow back. First, as detailed above, eyebrow hairs do grow slower than other body hairs. Consequently, the cosmetic and aesthetic issues associated with a prolonged period of eyebrow regeneration may be disconcerting to the patient. Second, removal of the hair prior to the surgical repair of a wound involving the eyebrow may remove important landmarks needed for proper alignment of the injured eyebrow.<sup>13</sup> Only after the eyebrow grows back will the visible cosmetic deformity be noted.

## SUMMARY

This article helps debunk the long held belief that shaved eyebrows do not grow back. One more medical myth has been discredited; and hopefully, this will be good news for all of the interns who over the years have been painfully sanctioned for inadvertently shaving a patient's eyebrow.

## CONFLICTS OF INTEREST

The authors of this article have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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