

“The Nasogenital Reflex: Imprudence of the Past as a Lesson for a Wiser Future”

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ABSTRACT

28 The history of the nasogenital reflex, a theory which purports a bidirectional pathway between
29 the nose and genitalia, reveals a complex and diverse record spanning back to antiquity and
30 across the Eurasian continent. This article examines how an antiquated medical theory made its
31 way into early contemporary medicine and the lesson this account serves as otolaryngology-head
32 and neck surgery continues to work towards making all its interventions based on a hierarchy of
33 evidence.

34

35 INTRODUCTION

36 Rhinology has always been central to otolaryngology, yet few clinicians are aware of nasogenital
37 medicine, in which nasal surgery was used for dysmenorrhea, and genital surgery was even
38 proposed for nasal disorders. Despite including medical luminaries like Sigmund Freud and John
39 MacKenzie, the two-thousand year-old saga of nasogenital medicine remains enigmatic, with
40 less than a dozen citations in the PubMed database. We, therefore, review the historical origins
41 of the nasogenital “reflex” and its relevance to otolaryngology to raise awareness of this bizarre
42 surgical craze and the implications for the current paradigm of evidence-based medicine.

43 The nasogenital reflex is a medical theory that purports a bidirectional pathway between the nose
44 to the genital tract.¹ While officially formalized into modern, medical literature during the late
45 19th and early 20th century, a more in-depth analysis reveals a complex and diverse history
46 spanning back to antiquity and across the Eurasian continent. This history culminated in the late
47 19th and early 20th centuries with a case series of nasal turbinectomy to treat dysmenorrhea, and
48 with later proposals of genital surgery to remedy nasal congestion and related nasal disorders.¹

49 Mention of the nasogenital reflex persisted until the mid-20th century before fading into its
50 current state of relative oblivion.

51

52 ANCIENT AND MEDIEVAL ORIGINS

53 The first mention of a connection between the nose and genitalia in medical literature dates to
54 600 BCE in the ancient Sanskrit text, *Sushruta Samhita*.² One cause of catarrh, outlined in the
55 text, is the “excessive indulgence in sexual inters course.”² The next reference to a connection
56 between the nose and genitalia is seen about 100 years later, when in 500 BCE, Hippocrates
57 makes several references to significant epistaxis at menarche.³

58 From 400 BCE onwards, a conception grew that nasal size and shape were surrogates of salacity,
59 especially in males. In *Physiognomonics*, Aristotle theorized that an individual’s venery can be
60 inferred by the shape of the nose, and the size of the nose correlated with the size of an
61 individual’s phallus.⁴ Elagabalus, one of the ancient Rome’s emperors, who was known to enjoy
62 the company of both men and women, was reported to have walked the streets of Rome in the
63 hopes of identifying future partners based on the size of his nose.⁵ These ideas persisted into the
64 medieval period, during which Johanna I, Queen of Naples, who ruled of the southern Italian
65 kingdom from 1343-1382, was also known to only court those with large noses.⁵

66 CONTEMPORARY MANIFESTATION

67 In the late modern period, the nasogenital relationship first appears in John Noland Mackenzie’s
68 address to the British Medical Association’s September 1897 meeting in Montreal.⁵ While
69 purported, at the time, to have come from Dr. Mackenzie’s personal observations, the same
70 theories seen in ancient and medieval texts find their way into Dr. Mackenzie’s address: nasal

71 inflammation worsens during menses, excessive venery leading to coryza, habitual masturbation
72 leading to recurrent epistaxis, and recalcitrant nasal disease due to co-existent uterine/ovarian
73 illness.⁵

74 By the turn of the 19th century, Sigmund Freud became aware of nasogenital medicine from his
75 friend and personal otolaryngologist, Wilhelm Fleiss.⁶ At that time, Dr. Fleiss reported his
76 patients were achieving temporary relief of their urogenital complaints when he anesthetized
77 erogenous tissue in their noses with cocaine. Buying into these findings, Dr. Freud began
78 referring his patients to Dr. Fleiss. One of these individuals was Ms. Emma Eckstein, who was
79 suffering from dysmenorrhea and sexual dysfunction (Figure 1). Hypothesizing that surgically
80 removing the “erectile patches” in her nose could be a permanent solution to her complaints, Dr.
81 Fleiss performed an inferior turbinectomy on Ms. Eckstein. Soon after, however, Ms. Eckstein
82 suffered severe postoperative complications, including infection and hemorrhage. As Dr. Fleiss
83 had left the country soon after the surgery, Dr. Freud was forced to enlist the assistance of a local
84 otolaryngologist, who discovered half a meter of gauze packing had been left in Ms. Eckstein's
85 nasal cavity. Although she eventually recovered, she was left permanently disfigured with half of
86 her face caved in.⁶

87 The incident with Ms. Eckstein had irreparably tarnished the theory's image, yet many physicians
88 continued to experiment on their own patients through much of the early twentieth century. One
89 laryngologist, Emil Mayer, even published his own case series of 93 women undergoing
90 turbinectomy for the treatment of dysmenorrhea, claiming a 60% success rate in his 1912 article
91 published in Journal of the American Medical Association (JAMA).⁷ And while research in the
92 the late 20th and early 21st century began to elucidate a relationship between estrogen levels and

93 nasal airway resistance, the theory later largely disappeared, as research-driven medicine failed
94 to demonstrate treatment of the latter affecting the former.⁸

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96 DISCUSSION

97 Looking back at the history of nasogenital medicine, however, raises a question: how could such
98 obvious lunacy persist for more than half a century, sweeping up medical luminaries like Freud
99 and yielding prestigious research published in JAMA? Traditionally, clinical decisions were
100 mostly backed by anecdote and experience, with expert theories and insight justifying
101 intervention, regardless of a proven relationship to desired outcomes.⁹ This eminence-based
102 medicine, where clinical decisions were based on a colleague's seniority or years of experience,
103 has largely succumbed to evidence-based medicine of the present, driven by a hierarchy of
104 evidence to support interventions, culminating with clinical trials and systematic reviews.⁹

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106 Vestiges of eminence-based medicine, however, still persist and can likely be found in journals
107 and scientific meetings of all disciplines and medical specialties. The passion, charisma, and
108 reputation of a clinician for a novel intervention may trump calls for a solid evidence-base,
109 which could take years or even decades to reach fruition. Whereas the number of studies
110 focused on clinical research published in otolaryngologic journals has significantly increased in
111 the past three decades, notable discrepancies still exist in the percentage of randomized,
112 prospective otolaryngological data published when compared to leading internal medicine
113 journals.¹⁰⁻¹¹

114 Even when randomized controlled trials (RCTs) exist, passion and eminence can still trump
115 evidence. Consider, for example, antihistamines for otitis media with effusion (OME), which

116 have been prescribed for decades by well-meaning clinicians to “dry up” the fluid. Despite a
117 Cochrane review of 16 RCTs (all published prior to 1990) showing no efficacy, children are still
118 twice as likely to receive antihistamines when diagnosed with OME.¹² Fortunately, evidence can
119 squelch passion: the demise of laser office ventilation of ears (LOVE) as an alternative to
120 ventilation tubes for otitis media was brought about by an RCT demonstrating reduced
121 efficacy.¹³

122 The future is always uncertain. But we can note with certainty that many of the procedures and
123 interventions we perform now will fall victim to the accrued evidence showing a lack of efficacy,
124 safety, or both. Clinicians of the future will likely reflect on many of our current, widely
125 accepted, interventions and pose the question, “how could clinicians at that time (e.g., us and our
126 colleagues) have been so foolish?” The answer involves more than hindsight, because the
127 nasogenital reflex lingered for more than half a century in medicine despite what now seems like
128 an obvious fallacy. While we are still susceptible to the enthusiasm of passionate experts, we
129 must also continue our work towards evidence-based medicine as the foundation for efficacy in
130 otolaryngology. We can all benefit from studying the impact of the nasogenital reflex on
131 otolaryngology and its clarion call for humility, critical thinking, and sound research as the basis
132 for medical interventions.

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166 FIGURE LEGEND

167 *Figure 1. Emma Eckstein prior to undergoing rhinological surgery.*⁶

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