

The Dynamics of Self Injury and Its Impact on Oral Health.

By Betsy Reynolds, RDH, MS

Introduction

While self-injury (also known as 'self-mutilation', self-abuse' or 'self-harm') has been documented for nearly all of recorded history, its rise in popularity in today's society is leaving parents, educators and healthcare providers perplexed, confused and frustrated. Currently, experts estimate the incidence of habitual self-injurers to be quite high—as many as 4% of adults, 17% to 38% of university students, and up to 69% of young people considered to be of high risk (homeless and runaway youths, substance abusers, victims of sexual assault) self-mutilate. Additionally, a recent investigation found that children as young as 7 years of age are reporting self-harming behavior such as cutting, burning, and self-hitting at rates similar to those seen during early adolescence. (Source: Lowry L: "Young Children Engaging in Nonsuicidal Self-Injury". *Pediatrics*; 6/11/12). As self-injury becomes more commonplace, it is becoming increasingly more urgent for all healthcare providers (dental and medical) to be able identify signs and symptoms associated with disordered self-abuse patterns in order to offer appropriate supportive and therapeutic care options. This article will attempt to provide an overview of self-mutilation, current oral self injurious trends, and tips for recognizing signs and symptoms of self-harm.

Background

In the early 1980's, conventional wisdom held that self-mutilation was some sort of subdued suicidal behavior. However, the psychiatric community began to identify self-harm trends that clearly were not associated with suicidal intent. Often, those who self-injured were found to be mentally challenged or suffering from syndromes and conditions that favored the appearance of self-mutilating behavior (See Table 1). Psychiatrists E. Mansell Pattison and Joel Kahan observed that 'not all seriously self-destructive behavior can be classified as suicidal' in a research report in the July 1983 issue of the *American Journal of Psychiatry*. Around the same time, another pioneer in the study of self-injury, psychiatrist Armando R. Favazza, M.D., attempted to establish a definition of self-mutilation that was both precise and broad enough to encompass all the different cases of behavior he had observed in his psychiatric practice. To that end, Dr. Favazza defined self-injury as 'the deliberate, direct, non-suicidal destruction or alteration of one's body tissue'.

As mentioned previously, certain conditions have been identified as recognizable risk factors associated with the development of self-injury patterns. However, in many cases, the self-abuser injures as a way to cope with societal pressures

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Armed with degrees in dental hygiene and oral biology, Betsy presents scientifically-based dental and dental hygiene continuing education programs nationally and internationally. Avidly committed to making the dental sciences understandable and relevant, Betsy devotes time and energy to publishing articles and book chapters designed to enlighten and inspire clinicians.

Her continuing education presentations include a variety of topics involving the biologic basis for oral and systemic disease prevention, microbiological and immunological aspects of oral disease, implications of stress on oral and systemic health, oral pathological concerns, oral piercing and body modification considerations in care delivery, head and neck anatomy and scientific developments affecting oral health care delivery. Betsy lives in her home state of Idaho where she enjoys hiking, biking, gardening and taking in the breathtaking scenery with loved ones.

Table 1: Syndromes and Conditions That May Favor Self-Injurious Behavior

Lesch-Nyhan Syndrome	XXY Syndrome	Mental disorders (depression, obsessive compulsive disorder, anxiety, borderline personality disorder)
Diminished mental capacity	Gilles de la Tourette Syndrome	Post-traumatic stress disorder ('PTSD')
Moebius Syndrome	Cerebral Palsy	Congenital insensitivity to pain with anhidrosis ('CIPA')
Munchausen Syndrome	Rett Syndrome	Neurological damage
Riga-Fede Disease	Autism	Pharmacological or recreational drug abuse
Addison's Disease	Epilepsy	

and life stresses. Beginning in the late 1990's and increasing rapidly in the early 2000's, self-injury slowly emerged as a cultural trend that grew to be recognized as a popular coping mechanism for people of all ages and backgrounds. In a recent article entitled 'The Social Transformation of Self-Injury: Self-Injury Does Not Mean Mental Illness Anymore' (*Psychology Today*; published 8/5/11), authors Peter Adler, Ph.D., and Patti Adler, Ph.D. aptly described the trending popularity of self-harm among various populations:

“Disaffected, alternative populations seized on [self-injury] as a way to rebel and express their rejection of mainstream values. Structurally disadvantaged populations such as homeless youth, minorities, the poor, and people in prisons and juvenile detention centers, turned to it out of frustration. Ordinary teenagers adopted it as a way to relieve the travails of typical adolescent development. Older people started revealing their self-injury to establish themselves as a group and differentiate from the ‘young and trendy’ cutters. Young men channeled their anger and rage into injuring their bodies...Once the media discovered self-injury, it spread like wildfire. People who heard about it, and learned that others had gotten relief from their emotional troubles by doing it, tried it themselves. Wannabes and copycutters did it just to fit in. The stigma of mental illness abated, so that people were regarded as being merely unhappy, and possibly too needy. Instead of freaking people out, self-injury became known, especially among youth, as ‘that thing that people do.’ As this happened, self-injury left the realm of the purely psychological and became a social phenomenon, spread through social contagion.”

Over time, a number of theories have been proposed to explain the etiological ‘why?’ behind self-mutilating behavior. The most widely suggested theories center on physiological responses related to the release of certain neurotransmitters during self-injury. The pain provoked by self-abuse induces a high level of endogenous opiate release which, in turn, creates a form of addiction to the phenomenon in affected

individuals. Dopamine may also be involved in the relief self-harmer's experience when injuring themselves because one of dopamine's best known roles is in learning about rewards.

Relief from an aversive event (such as self-harm) can be considered as a reward. Dysfunction of the serotonergic system has also been implicated in the development of self-abusive patterned behavior. Serotonin exerts a multitude of effects that seem to allow individuals to better function in demanding situations. High levels of serotonin lead to a cheerful disposition and the ability to withstand everyday stress. Other effects of serotonin tend to be inhibitory and are related to reduction in appetite, inhibition of sexual behavior, and suppression of pain perception. While some studies found decreased serotonin receptor binding indexes in patients who deliberately self-harm, subsequent research has not consistently confirmed these findings making treatment of self-abusive behavior with selective serotonin reuptake inhibitors such as fluoxetine (Prozac) controversial.

Classification of Self-Mutilation

In order for self-harm induced lesions to be classified as a ‘non-suicidal self-inflicted injury’, the injuring behavior must satisfy certain characteristics. The self-abuse must be considered socially unacceptable (in order to distinguish it from other behaviors such as piercing), direct (to differentiate the behavior from lesions induced by indirect methods such as the deliberate ingestion of a drug), repetitive, and have produced mild to moderate damage. (Source: Briere J, Gil E. “Self-mutilation in clinical and general population samples: prevalence, correlates, and functions”. *Am J of Orthopsychiatry* 1998; 68:609–20).

Early on in the study of self-injury, Dr. Favazza, along with psychiatric colleagues Richard Rosenthal and Daphne Simeon, developed a classification system designed to categorize deviant self-mutilation into three observable types. This system remains in place today and has proven to be beneficial

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in identifying self-injury patterns as an integral diagnostic component for many mental, dental and systemic health conditions. The first category of self-harm was identified as major self-mutilation ('MSM'). Today, MSM is rarely observed and usually only occurs in association with mental illness (primarily psychosis), acute alcohol or drug intoxication, and transsexualism. This type of disorder often results in permanent loss of an organ or its function and is mainly associated with ocular, genital and limb mutilation. Stereotypic self-mutilation ('SSM') is the second recognized class of self-harm. SSM refers to monotonous, repetitive, and sometimes rhythmic acts such as head-banging, hitting oneself, orifice digging, throat and eye gouging, self-biting and joint dislocation. SSM is seen generally in individuals with autism, diminished mental capacity, or Tourette's syndrome. The third category of self-injury became known as superficial or moderate self-mutilation ('SMSM'). Widely recognized as the most common type of self-injury afflicting individuals in all social classes throughout the world, SMSM generally begins in early adolescence. Behaviors associated with SMSM include cutting oneself with a knife or razor, skin picking, severe nail biting, self-stabbing, scratching the skin, burning or scalding the skin, hair pulling and interfering with wound healing. Some of the items of choice used in SMSM include pencil tips, paper clips, pins, shards of glass, razors, box cutters, scissors, and drink can tabs. Areas most often cut are wrists, arms, ankles, calves, inner thighs, belly, armpits and feet.

Oral Self-Injury

Injuries to oral soft-tissues can occur due to accidental, iatrogenic (preventable harm resulting from medical or dental treatment) and factitious (self induced) traumas. Traumatic lesions, whether chemical, physical, or thermal in nature, are among the most common in the mouth. Increasingly, oral self-injury lesions are being identified in the dental and dental hygiene settings. Extreme manifestations of oral self-harm include intentional burning of the tongue, auto-extractions, and bone fracture (especially involving the mandible). More commonly encountered oral presentations of self-abusive behavior include scratching of the gingiva leading to recession with bone loss (clinically referred to as 'gingivitis artefacta') and oral mucosal trauma (referred to as 'oral frictional keratosis').

Two presentations of gingivitis artefacta have been described. 'Gingivitis artefacta minor' refers to self-injurious behavior that is usually provoked by some kind of localized irritation (such as an irritating restoration or orthodontic appliance) and is more likely to be found in one intraoral site only. In cases of 'gingivitis artefacta major', in contrast, multiple self-induced lesions are generally observed. The lesions do not correspond to any known disease and are mostly of a bizarre configuration with sharp outlines, surrounded by otherwise healthy tissue. In addition, the grouping and distribution of the lesions is unusual and in locations which are easily accessible by the patient. (See Figure 1).



Figure 1: Notice the multiple self-induced lesions associated with this case of gingivitis artefacta major caused by fingernail scratching. The lesions do not correspond to any known disease and demonstrate distinct borders surrounded by otherwise healthy tissue.

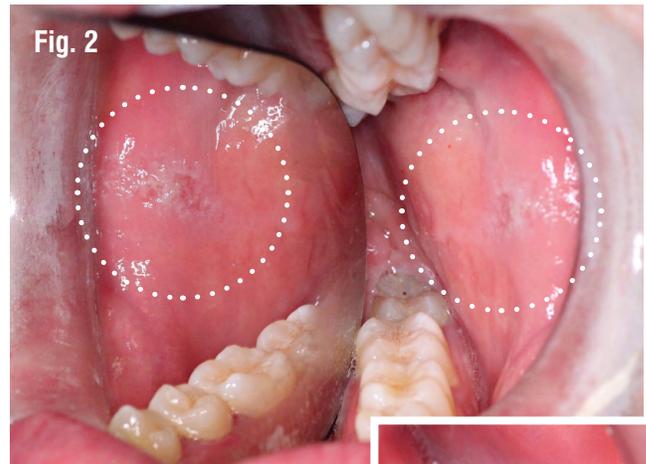
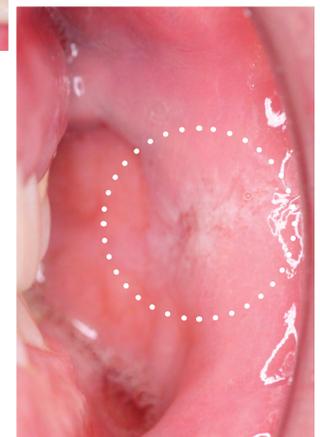


Figure 2: Examples of bilateral cheek biting.



To date, the management of gingivitis artefacta major by the dental profession has involved the removal of the pre-existing locus of irritation (in cases of gingivitis artefacta minor), prevention of an oral self-harming behavior (often requiring the fabrication of a customized intraoral appliance) and/or appropriate psychiatric referral. (Source: Spencer RJ et al. "Gingivitis artefacta: A case report of a patient undergoing orthodontic treatment". *J of Orthodontics*. June 1999. 26(2) 93-96.)

Oral frictional hyperkeratosis ('OFHK') caused by chronic cheek biting is a relatively common finding in the dental and dental hygiene settings (see Figure 2). Oftentimes, people occasionally chew the inside of their cheeks as a nervous habit with little consequence. Presenting as a thickening or roughness of the involved mucosal site, OFHK is frequently asymptomatic (think 'linea alba'). However, in cases of persistent cheek biting, OFHK-associated lesions may demonstrate tenderness, swelling and a burning sensation and present in a diffuse pattern with occasional patchy erythema or petechiae (especially following recent trauma to the site). These lesions are referred to as 'morsicatio buccarum'. Interestingly, it has been reported by self-injury discussion groups (such as 'Pickaderms') that most

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self-harmers begin with cheek biting habits—making early recognition by the dental team an important step in possible intervention strategies that may prevent further self-abusive behavior.

Treatment Strategies

It is possible to treat gingival injury and maintain the periodontal health of a patient with destructive oral habits. Patient compliance, regular dental follow-ups, and psychological support may be useful in stabilizing the periodontal condition of these patients. Fabrication of intraoral appliances designed to block sites of self-injury has also proven to be beneficial in allowing affected sites to heal and preventing further damage to oral tissues. Chewers and scratchers report that they are sometimes able to resist the urge to self-harm by chewing gum or eating a snack (raw vegetables are a good choice).

Conclusion

Dentists and dental hygienists must be aware that self-inflicted intraoral injury, although thought to be uncommon, is quite widespread. (Source: Dilsiz A and Aydin T: “Self-inflicted gingival injury due to habitual fingernail scratching: A case report with a 1-year follow up”. *European J of Dent*; 05/2009; 3(2):150-4). Recognizing self-inflicted oral injuries is the first step in providing supportive treatment that may minimize escalation of self-mutilating behavior. An excellent resource to refer self-harmers to for assistance in treating self-injury compulsions is S.A.F.E. (‘Self-Abuse Finally Ends’) ALTERNATIVES® (www.selfinjury.com or 1-800-366-8288). Open communication without judgment is vital to providing comprehensive dental and dental hygiene care to people who self-harm. A willingness to individualize therapy and treatment options to best treat self-caused periodontal and tissue defects is critical.

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