

# Oral piercing & dental complications

By Sue Bagnall\*

## Aim

To provide the reader with information to update their knowledge of the complications associated with oral piercings.

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## Introduction

Modifications of the body including tattooing and body piercing have been performed by many population groups over the centuries in various geographic areas and with distinct cultural and social meanings.<sup>1</sup>

Oral piercings are piercings of the tongue, lips or cheek and popularity for this type of piercing has increased in recent years and has become associated with self expression. However, the increasing demand from adolescents and young people for oral piercings has generated concern within the medical and dental profession regarding the risk posed to the patient from this type of piercing.<sup>1</sup>

This article will discuss the various oral complications associated with oral piercings and provides advice that could be offered to patients with oral piercings or patients who are considering oral piercings.

## Tongue and lip piercing

The most common jewellery used for these

types of piercings are barbells of various sizes with studs, labrettes with one stud, or hoops. The tongue piercing is usually carried out in the middle of the tongue anterior to the lingual fraenum. The piercing is usually carried out without anaesthesia using a needle of equal width to the barbell.<sup>2</sup> The jewellery is worn constantly to prevent the site closing. Piercing is usually carried out in a tattoo or body piercing studio and there are always associated risks with any surgical procedure. Despite performing a surgical procedure many body artists have not had any formal training in sterilisation, effective skin care or cross infection control, although they are often aware of the risk of infection control for blood borne viruses.<sup>3</sup>

## Immediate complications

The most common immediate complications following an oral piercing are pain and swelling of the site of the piercing, which in severe cases could affect breathing. Individuals may

experience problems with eating and speaking immediately following the placement of oral jewellery. Excessive bleeding or infection at the site of the piercing could possibly require treatment with antibiotics.<sup>4</sup>

### Adverse oral and systemic complications

#### Tooth fracture

Clinical studies show that this is the most common problem associated with oral piercings. Chipping and/or fracture to the teeth can occur; the severity of this differs and may involve chipping to the incisal edges of the anterior teeth or cracked tooth syndrome to previously restored teeth. In severe cases this can involve a fractured tooth which could require extraction. The potential to damage or fracture crowns or bridge work is also increased when wearing oral jewellery.

#### Speech impediment

There is a risk that insertion of a barbell may interfere with movement of the tongue and affect speech.

#### Aspiration

As jewellery used in oral piercings always consists of two parts there is a risk that the jewellery could accidentally separate and be inhaled by the individual.<sup>5</sup>

#### Infection and allergic response

A review of literature concerning medical complications following piercings found that a high number of people experienced bacterial infection at the site of the piercing resulting in blistering, pus and redness and some experienced dry skin and tenderness. Many of the problems were reported to have occurred as a result of inadequate after care instructions.<sup>6</sup>

As previously discussed piercings are often carried out without attention to adequate sterilisation and cross infection control and this can result in an increased risk of transmission of diseases such as: hepatitis B, HIV, tetanus, syphilis and tuberculosis.<sup>7</sup>

Allergic reaction to nickel or alloys used in the jewellery is a possibility.<sup>7</sup>

#### Gingival recession and gingival trauma

A recent study has demonstrated that individuals with tongue piercings are 11 times more likely to develop gingival recession in the lower lingual region of their anterior teeth than individuals without piercings and the severity of the recession was significantly higher. Gingival recession can increase the risk of sensitivity and of root caries and can produce a poor aesthetic appearance. Trauma to the

buccal gingiva was observed more frequently in relation to lip piercings.<sup>1</sup>

#### Abrasion

A significant number of individuals with oral piercing report abnormal functional habits of rattling the piercing against their teeth:<sup>1</sup> this can lead to abrasion of tooth surfaces. Abrasion can be defined as 'the permanent loss of tooth structure that can occur on various tooth surfaces including the incisal edges, outer tooth surface and even exposed root surface'. This can lead to sensitivity and in severe cases damage to the nerve of the tooth.<sup>8</sup>

#### Alteration to saliva flow

Oral piercings may cause hypersalivation (increase in saliva flow).

#### Other complications

Less common complications which have been reported following oral piercings include hypertrophic scarring (raised scarring bordering the site of the piercing, which can be puffy and red). Cyst formation or damage to the nerves, veins and blood vessels in the area could occur. The formation of a keloid could occur: this is a type of scar which increases in size and can become painful and itchy.<sup>10</sup>

#### Endocarditis

Although currently no study has examined the correlation between tongue piercing and endocarditis, a case study of a 25-year-old male

at Memorial Health University Medical Centre demonstrated that a patient with congenital heart disease developed endocarditis following placement of a tongue piercing. It was felt that colonisation of bacteria around the stud was likely to have caused a bacteraemia and endocarditis.<sup>10</sup>

#### Ludwig's Angina

Ludwig's Angina is an infection of the floor of the mouth which involves inflammation of the tissues under the tongue. It results in pain and swelling and can obstruct the airway.<sup>11</sup> There has been a documented case of individuals presenting with Ludwig's Angina which has occurred as a result of tongue piercing.

#### Bifid tongue

Bifid tongue is a defect in the anterior or midline of the tongue resulting in splitting of the tongue. This can result as a complication of tongue piercing, although it is not common. Fleming and Flood reported on the case of a 17-year-old that developed bifid tongue.<sup>12</sup> The tongue became infected following the insertion of a tongue piercing and as it healed it resulted in bifid tongue (Fig. 1). Surgery was carried out to repair the tongue (Fig. 2).<sup>12</sup>

#### Misalignment of dentition

Habits of moving the oral jewellery around in the mouth and in some cases pushing the jewellery between the teeth can result in misalignment of the dentition. A recent study found 75% of students with oral piercings admitted to habitually moving the jewellery around within their mouth.<sup>13</sup>

The study highlighted a case of a 26-year-old female with a barbell stud piercing in her tongue which she habitually pushed between her upper central incisors over a period of seven years. This had created a midline diastema which required orthodontic treatment to correct. The oral jewellery was removed permanently and a fixed orthodontic appliance was used to close the diastema.

#### Patient education

An investigation of tongue piercing in the South of England found that most individuals experience problems in the first 24 hours following tongue piercing. However, few individuals developed further problems that required assistance from health care professionals.<sup>14</sup>

As health care professionals we need to be aware of the risks involved in oral piercings and be able to offer our patients advice accordingly.

If a patient experiences problems immediately following the piercing suitable advice could include the following:

'A significant number of individuals with oral piercing report abnormal functional habits of rattling the piercing against their teeth: this can lead to abrasion.'

**Conclusion**

As oral piercing is continuing to increase in popularity, dental care professionals should be aware of the potential complications that can occur so that we can advise our patients, enabling them to make an informed decision prior to having an oral piercing and so that they can maintain their dental health following an oral piercing.

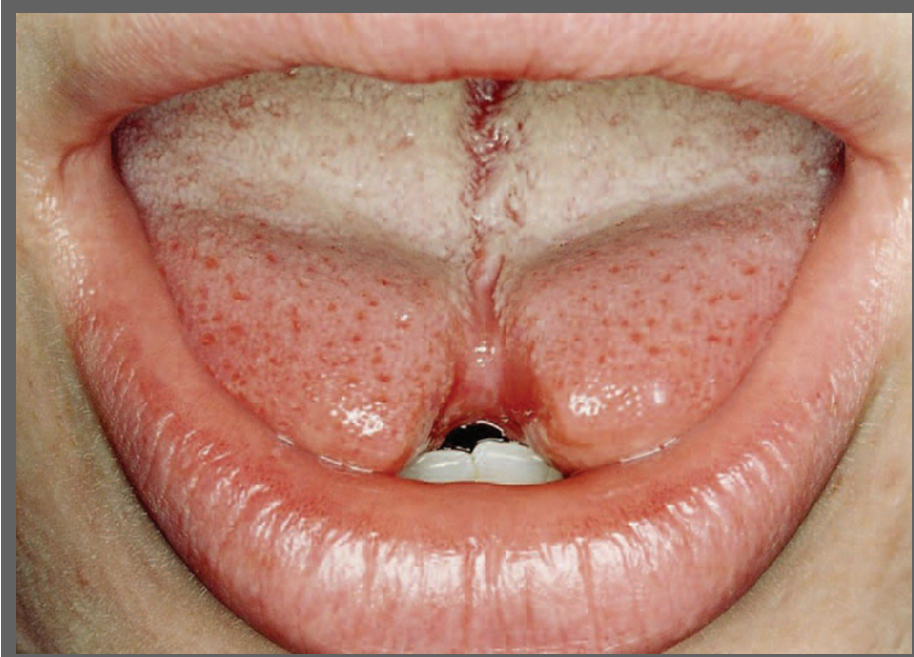


Fig. 1 Defect in anterior midline of tongue<sup>12</sup>

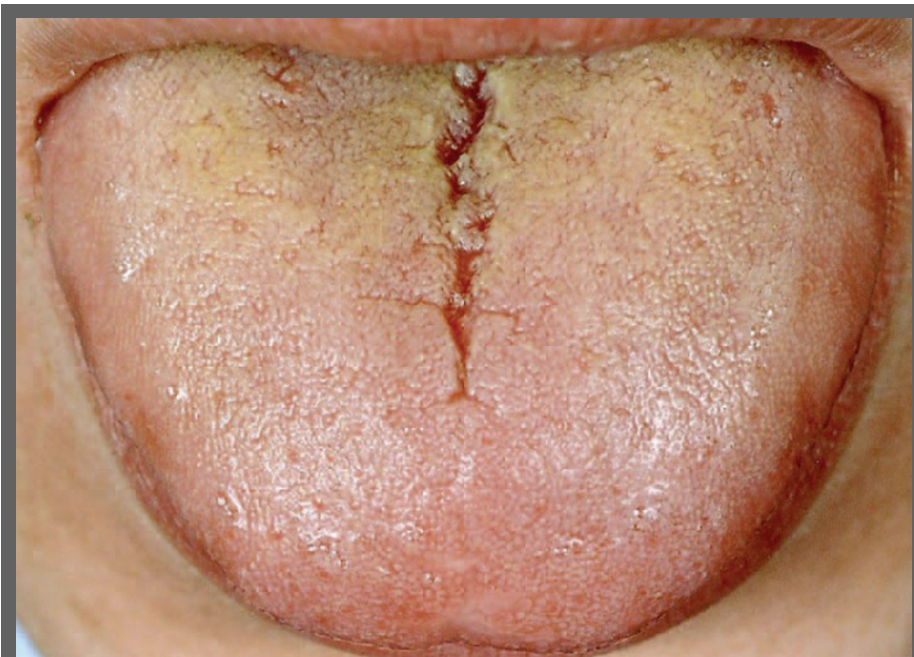


Fig. 2 Healing defect three months post-operatively<sup>12</sup>

- Reduce the risk of swelling by sucking ice cubes hourly for the first 24 hours
- If the tongue swells making swallowing or breathing difficult go straight to Accident and Emergency at the nearest hospital
- If the area around the jewellery becomes red or tender have it checked by your doctor or dentist
- If the pierced area continues to bleed press it firmly with a clean linen handkerchief until it stops
- If the bleeding does not stop go to Accident and Emergency at the nearest hospital.<sup>15</sup>

If a patient attends the dental practice for a routine examination with an oral piercing in place, the clinician could inform the patient of the most common potential risk of oral piercings. This would include information concerning:

- Chipping and/or fracturing of the teeth
- Misalignment of the teeth if they habitually move the jewellery round within their mouth
- The risk of recession or abrasion
- Oral hygiene advice to prevent calculus formation on the jewellery.

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