Smiles have a huge impact on first impressions. Stained teeth can make a smile look unsightly and can be the source of embarrassment, affecting a person’s confidence and self-esteem. The colour of the teeth is of particular cosmetic importance to a large number of people who seek dental treatment to improve their appearance. Knowing the cause of staining may influence dental hygiene treatment options and outcomes.

**TYPES OF TOOTH STAINS**
There are two main types of tooth stains:

*Intrinsic stains* – occur inside the tooth structure and cannot be removed by professional scaling (cleaning) or polishing. Stains can result from alterations during tooth development, associated with antibiotic use (tetracycline), trauma, infection and dental fluorosis – swallowing large amounts of fluoride that cause white/brown spots on teeth and weaken the enamel.

*Extrinsic stains* – appear on the tooth surface and can usually be removed by professional scaling or polishing. Stains occur from dyes in food, beverages, tobacco, mouth rinses, exposure to metallic compounds, the presence of chromogenic bacteria (colour-producing bacteria) and poor oral hygiene. The stains are absorbed onto tooth surface deposits such as plaque bacteria (white, sticky substance) that accumulate on teeth, especially around the gum line.

**EXTRINSIC STAIN COLOUR**

*Sources and treatment*
Sources of the stain can often be identified by the colour, as well as the client’s lifestyle, diet, work environment and oral self-care, which helps to determine the most effective way to remove and control staining. *(See chart, right)*

**CAUSES OF INTRINSIC AND EXTRINSIC TOOTH STAINING**

- Poor oral hygiene
- Age
- Smoking and/or smokeless tobacco
- Beverages, e.g., coffee, tea and red wine
- Food, e.g., berries, soy sauce and curries

### Tooth Staining Facts

<table>
<thead>
<tr>
<th>Type</th>
<th>Source</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>Plaque build-up on tooth surfaces due to poor oral hygiene</td>
<td>Proper home care to remove plaque</td>
</tr>
<tr>
<td>Green</td>
<td>Most common in children with enamel irregularities; inadequate daily plaque removal</td>
<td>Proper home care to remove plaque</td>
</tr>
<tr>
<td>Black line</td>
<td>A persistent stain from iron in saliva, oral solutions and supplements; industrial exposure to iron, manganese and silver</td>
<td>Professional scaling and polishing</td>
</tr>
<tr>
<td>Brown</td>
<td>Tobacco tar, food and beverage pigment and tannins (e.g., tea, wine); insufficient brushing</td>
<td>Professional scaling and polishing</td>
</tr>
<tr>
<td>Yellowish-brown</td>
<td>Stannous fluoride and chlorhexidine in mouth rinses</td>
<td>Professional scaling and polishing</td>
</tr>
<tr>
<td>Orange</td>
<td>Chromogenic bacteria from poor oral hygiene</td>
<td>Professional scaling and polishing or client removes with proper brushing</td>
</tr>
<tr>
<td>Blue-green</td>
<td>Exposure to mercury and lead dust</td>
<td>Professional scaling and polishing</td>
</tr>
<tr>
<td>Red-black</td>
<td>Chewing betel leaves and nuts, and lime (paan)</td>
<td>Professional scaling and polishing</td>
</tr>
</tbody>
</table>

*cont’d next page*
• Certain medications
• Dental fluorosis
• Trauma to the teeth

RISK FACTORS
• Plaque forms a rough surface on enamel where stains can attach, giving teeth a dull and unsightly appearance.
• Poor oral hygiene allows plaque and stains to build up.
• Some restorations and crowded teeth can make plaque removal difficult.
• Dry mouth and the absence of saliva to wash away food and harmful bacteria promote plaque growth.

PREVENTION AND HOME CARE
When plaque is removed, most stains cannot adhere to smooth tooth surfaces. Dental hygienists develop specific treatment plans for stain removal and prevention, which can vary depending on the cause and extent of the stains. They work with clients to customize home-care programs to help keep mouths healthy and plaque-free.

Maintain good oral care:
• Visit a dental hygienist regularly for professional scaling to remove extrinsic tooth stains, plaque and calculus (hardened plaque).
• Brush twice a day with fluoridated toothpaste and a soft toothbrush. (An adult should assist/supervise children until the age of 10.)
• Floss or clean between teeth at least once a day.
• Brush or scrape the tongue daily; it can harbour harmful bacteria.
• Use a mouth rinse, if recommended by a dental professional.
• Eat a nutritious, well-balanced diet.
• Reduce sugar consumption.
• Avoid beverages, food and products that cause staining.
• Do not smoke or use smokeless tobacco.

In addition, dental hygienists:
• Provide advice on smoking cessation and healthy eating, including nutritional snacks and beverages.
• Educate clients and give instruction on effective ways to brush and floss.
• Recommend products that help reduce stain formation, e.g., whitening toothpaste, power toothbrushes.
• Remove plaque and stains from dentures and recommend cleaning products, as plaque and stains can affect the condition and function of dentures.

See fact sheets on: Smoking and Smokeless Tobacco; Nutrition and Oral Health; Brushing, Flossing and Rinsing; and Xerostomia.