

Glossary Terms for Simplifying Anterior Dental Anatomy

Accentuate To accent or emphasize. To give prominence. We can accentuate an area by adding to it or by reducing the surrounding areas. The dental technician accentuates the areas which have prominence in natural teeth in order to make a restoration look natural.

Alveolar Process The raised extension of the mandible or maxilla that surrounds and supports the teeth.

Alveolus The socket in the alveolar process, lined with the periodontal membrane, in which the tooth sits.

Anatomic Crown The part of the tooth that is covered with enamel, extending from the cemento-enamel junction to the cusp tips or incisal edge.

Anatomic Teeth Restorations that match the anatomy of the natural teeth.

Anatomical Pertaining to anatomy. Life like, real. Having a certain form. In dentistry, having all the features of natural teeth..

Anatomy The form or structure of an object. The features that define the shape of a tooth. Dental anatomy can be thought of as a series of convexities and concavities that form the light reflective surfaces that create the apparent shape of the tooth.

Anterior The front of an object. The front of the mouth, or pertaining to the front of the mouth or the front teeth.

Anterior Teeth The front teeth. The central incisors, lateral incisors and cuspid of each arch. The anterior teeth define the smile.

Apical Foramen The opening of the pulp canal through the tip of the root.

Asymmetrical Not symmetrical. Having two halves or parts, divided by a centre line, which are not the same shape, size or arrangement.

Axes Plural of axis. There are 9 axes which can be used to describe the rotation of a tooth in the mouth. Using these 9 axes , we can accurately describe any rotational position of the tooth.

Axial Pertaining to an axis.

Axial Wall One of the four vertical surfaces of a tooth. The mesial, distal, labial or buccal and lingual surfaces.

Axis An imaginary line running through an object, around which an object can be rotated. There are 9 axes we can use to describe the rotation of a tooth in the mouth. Using these 9 axes, we can accurately describe any rotational position of the tooth.

Basic Aesthetic Composition A generic arrangement of anterior teeth that you can use for most cases when you have no other reference such as a preoperative model. The basic composition is thus: 1. Centrals flat to the front of the mouth, on the occlusal plane and vertical in profile. 2. Laterals face on the curve of the arch, 1 to 2 mm shorter than the centrals and vertical in profile. 3. Cuspids on the curve of the arch, 1 to 3mm shorter than the centrals, rotated out slightly at the gingival with the mesials rotated slightly out and the distals in.

Bruxism Habitual grinding of the teeth, particularly during sleep.

Buccal Corridor The visual separation between the cheek and the buccal surfaces of the posterior teeth seen when a person smiles.

Canine A cuspid, so called because of its canine shape (like a dog's tooth)

Cemento-enamel junction The line on the surface of a tooth that marks the meeting of the cementum and the enamel. The cervical line.

Cementum The hard, bony layer covering the dentine on the root of the tooth.

Central Pertaining to the middle of an object. A central incisor.

Central Incisor One of the two anterior teeth in the middle of each arch. The tooth next to the median line.

Cervical Pertaining to the cervix or the narrowest part of an object. On a tooth, the part of the tooth just below the cemento-enamel junction.

Cervical Third The third of the tooth closest to the cervix.

Cervix The narrowest part of an object. A neck. The neck of the tooth, just below the cemento-enamel junction

Check Line An enamel crack in a natural tooth which usually runs vertically.

Cingulum The lingual lobe of an anterior tooth which is located in the gingival third of the lingual surface.

Clinical Crown The part of the tooth that is exposed in the mouth. As the gingiva recede, the clinical crown gets longer.

Concavity A hollowed or rounded inward shape. Causes shadows on the surface of teeth.

Contact Area The area where the proximal surface of one tooth touches another. Sometimes called a contact point.

Convexity Curved or rounded outward like the surface of a sphere. The area that reflects light from a tooth, giving it shape.

Coronal Pertaining to the crown, or highest part of an object.

Cortical Plate The hard, outer shell of the alveolar process.

Cosmetic Beautified or arranged to enhance appearance.

Cosmetic Dentistry The practice of dentistry for the improvement of appearance.

Craze To develop a series of fine cracks in a surface, such as enamel cracks.

Crown The highest part of an object. A cover. The highest part of a natural tooth.

Crown-Root Ratio The ratio of the clinical crown length to the length of the root within the alveolar bone.

Curve of the Arch An imaginary curved line following the facial surfaces of all the teeth in the dental arch.

Cuspid A tooth having a single cusp. The most distal of the anterior teeth in each arch. The third tooth from the midline. The cuspids are primarily for tearing.

Cuspid Guidance Immediate disclusion of the posterior teeth in lateral excursion due to contact between opposing cuspids.

Cuspid Rise Cuspid guidance

Dental Pertaining to the teeth.

Dental Arch The arched, composite structure of the teeth and supporting alveolar bone.

Dental Technology The art, study and manufacture of dental restorations.

Dentine The hard tissue which forms the main body of a tooth. It surrounds the pulp and is covered by the enamel and the cementum.

Dentition The teeth of the dental arch. Typically used to describe the natural teeth.

Depression A concavity on a surface.

Developmental Groove The slight depression dividing the lobes on an anterior tooth and running parallel to the long axis.

Diastema A space between two adjacent teeth.

Distal Facing away from the median line, following the curve of the dental arch.

Distal Surface The surface of the tooth facing away from the median line, following the curve of the dental arch.

Edentulous An area of the mouth where the natural teeth have been removed.

Elongate To make longer

Embrasure A V- shaped formed by the curved proximal surfaces of adjacent teeth. In dental technology, we define 4 embrasures surrounding the proximal contacts. For anterior

teeth : gingival, Incisal, labial and lingual. For posterior teeth: gingival, occlusal, buccal and lingual.

Emergence Profile The contour of a tooth or restoration where it emerges from the gingiva.

Enamel A hard , glossy coating. The smooth, translucent hard substance which covers the crown of a tooth over the dentine.

Enamel Crack A small, vertical crack in the enamel that forms due to stress or trauma.

Enamel prisms/enamel rods The calcified, microscopic prisms radiating from the dentine that form tooth enamel.

Epithelial Attachment The attachment of the gingival to the tooth surface at the base of the gingival crevice.

Esthetic Relating to the qualities of beauty in natural dentition or a dental restoration.

Esthetic Composition The esthetic arrangement of the teeth relative to one another and the dental arch.

Esthetics The visual attractiveness of the natural teeth. The aesthetic qualities of the bridge are as important as the functional qualities.

Facet A small, smooth plane cut or worn into another surface.

Facial Pertaining to the face.

Facial Surface The surface of a tooth closest to the face. Commonly used to refer to the labial surface of an anterior tooth or the buccal surface of a posterior tooth.

Flat to the Front The esthetic principle describing the central incisors being positioned flat to the front of the mouth. This is one of the things most often done incorrectly in dental restorations. Except in the case of crowding, the labial surfaces of both centrals should be parallel and flat to the front of the mouth, not in the curve of the arch.

Gingiva The soft tissue surrounding the teeth. The gums. The fibrous tissue covered by mucous membrane that immediately surrounds a tooth and is continuous with the periodontal membrane.

Gingival Referring to the gingival. The area of the tooth closest to the gingival.

Gingival Attachment The epithelial attachment.

Gingival Bulge The convex area just above the cervical line that deflects food away from the gingival.

Gingival Collar The area of connection between the gingival and the teeth.

Gingival Crest The apical (longest) portion of the gingival collar.

Gingival Crevice The V-shaped contour between the gingival and the surface of the tooth.

Gingival Depression A small depression at the gingival of a cuspid, distal to the long axis.

Gingival Sulcus The gingival crevice

Golden Proportion A concept used to describe the relative proportions of the central and lateral incisors, where $3/2$ is the approximate ratio. That is, in the space occupied by a central and a lateral, the central will take up $3/5^{\text{th}}$ of the space and the lateral $2/5^{\text{th}}$. Another way to think of it is that the lateral is $2/3^{\text{rd}}$ the size of the central.

Height of Contour The maximum contour of a surface in any direction. Convex areas of a tooth that reflect light and give shape to the tooth.

High Lip Line The highest position of the vermilion border of the upper lip in a smile.

Imbrication Lines Small semi-circular lines in the gingival third area that diffuse light reflected from the surface

Incisal Cutting. Pertaining to the cutting edge of an anterior tooth.

Incisal Edge The narrow biting edge or facet area of an anterior tooth.

Incisal Third The third of an anterior tooth closest to the Incisal edge.

Incisive Papilla An area directly lingual to the two maxillary central incisors at the midline of the mouth where nerves and blood vessels come through the bone.

Incisor A tooth with a narrow biting edge, located at the front of the dental arch.

Individualize To make the teeth appear natural by making them appear separate or different.

Interdental Between the teeth.

Interdental Papilla The soft tissue between the adjacent teeth.

Interproximal Between the proximal surfaces of two teeth.

Labia The lips

Labial Pertaining to the lips

Labial Depression A depression on the labial surface (towards the lips) of an anterior tooth between the mesial and distal lobes.

Labial Surface The surface of an anterior tooth that faces the lips.

Lamina dura The layer of bone forming the wall of the alveolus.

Lateral To the side

Lateral Incisor The anterior tooth to the side of the central incisor. The second tooth from the median line of the dental arch.

Line Angle The ridge formed by the intersection of two planes. Often used to describe the junction of the labial surface with the proximal surface.

Lingual Pertaining to the tongue.

Lingual concavity/lingual fossa The depression on the lingual surface of an anterior tooth bordered by the incisal edge, the cingulum and the marginal ridges.

Lingual Surface The surface of the tooth facing the tongue.

Lip Line The level of the vermillion border of the lip relative to the teeth.

Lip Support The condition in which the upper teeth hold the upper lip forward.

Lobe A segment from which a natural tooth develops. Of the three labial lobes found on central and laterals, the central lobe is usually the longest and widest. The mesial lobe is the second longest and narrowest of the three. The distal lobe is shortest and second widest. While a large percentage of teeth exhibit the proportions described, much variation is found. Often the central lobe is depressed and least prominent, and there may also be variations in the mesial and distal lobes. Like the rest of the anterior teeth, cuspids have three lobes. The mesial lobe is the second in length, second in prominence, and the narrowest of the lobes. The central lobe extends from the tip of the cusp to the cervical line. It is the longest, widest and most prominent of all the anterior lobes. Because of its prominence, it forms a labial ridge that differentiates this tooth from the central and laterals. The distal lobe is separated from the central lobe in the incisal region by the distal developmental groove. The distal lobe is the shortest and the second widest of the lobes. It ends below the distal middle third in a fairly deep concavity.

Long Axis An imaginary line that runs vertically through the centre of a tooth. All anatomical features must be in correct relationship to the axis in order for the teeth to appear natural. The long axis is not to be confused with the rotational axis.

Long Clinical Crown A tooth with recessed gingival where the clinical crown is longer than the anatomic crown.

Low Lip Line The level of the vermillion border of the upper lip when it is completely relaxed.

Mamelons The three raised lobes on the incisal edge of an adolescent tooth.

Mandible The lower jaw

Mandibular Pertaining to the mandible. Lower.

Marginal Pertaining to a margin or border of an object

Marginal Ridge An elevation of enamel which forms the mesial and distal border of the lingual surface of an anterior tooth or the occlusal surfaces of a posterior tooth.

Maxilla Either of the two halves of the upper jaw, fused at a suture line, that contain upper teeth. Commonly used to describe the entire upper jaw.

Maxillae The two halves of the upper jaw, containing the upper teeth.

Maxillary Pertaining to the maxillae. Upper

Median Line An imaginary line which extends vertically through the middle of the face. Also the midline of a model through the centrals

Mesial Towards the median line, following the curve of the dental arch.

Mesial Surface The surface of a tooth facing the median line, following the curve of the dental arch.

Mesial Triangle A triangle formed by the mesial lobe, the cemento-enamel junction and the midline of the proximal surface.

Middle Third The third of the tooth closest to the centre.

Midline An imaginary line that extends vertically through the middle of the face. Also the median line of a model through the centrals.

Morphology The study of anatomy. The anatomy of an object taken as a whole.

Ness Teeth A set of large, anatomic study teeth created by John C Ness, CDT, founder of PTC

Oral Pertaining to the mouth.

Oral Cavity The inside of the mouth

Oris The mouth

Overbite Vertical overlap of the upper and lower teeth.

Overjet Horizontal overlap of the upper and lower teeth

Papilla A small elevation of soft tissue.

Parallel Lines in the same plane or surfaces which can be extended indefinitely without meeting

Parameter A limit or boundary

Perikymata Very small horizontal ridges on the surface of a tooth caused by the formation of the enamel prisms. Perikymata diffuse light reflected from the surface, and become less noticeable over time, due to wear of the enamel surface.

Periodontal ligament/ periodontal membrane The thin, fibrous membrane surrounding the root of a tooth and continuous with the epithelial attachment.

Primary Anatomy The basic physical features of a tooth. On a posterior tooth, all features except the secondary and auxiliary grooves.

Plane A flat surface

Primary Plane On an anterior tooth, the flat plane inside the mesial and distal lobes which is in alignment with the long axis. These planes are shown on the Primary Ness Teeth.

Profile A side view of an object. A vertical cross-section or outline.

Proximal Contact The area of a tooth that touches another tooth on the proximal surface. The proximal contact is an ovoid area just below the marginal ridge and just buccal to the central dissectional groove in natural tooth contacts.

Proximal Surface The surface of a tooth facing an adjacent tooth. A mesial or distal surface.

Proximal Wall The proximal surface of a tooth.

Pulp The soft, fibrous, central core of a tooth, consisting of the nerve and blood vessels.

Pulp Canal The portion of the pulp cavity that lies within the tooth root. The root canal.

Pulp Cavity The central hollow chamber of a tooth that contains the pulp.

Pulp Chamber The portion of the pulp cavity located in the crown of the tooth.

Pulp Horn An extension of the pulp chamber directly under a cusp or a developmental lobe.

Quadrant One half of a dental arch. The four quadrants (in the order in which they are charted) are upper right, upper left, lower left and lower right.

Ridge A long, narrow elevation.

Root The part of a tooth that is anchored in the bone, typically below the gingival.

Root Canal The portion of the pulp cavity that lies within the tooth root. The pulp canal.

Rotation Movement of an object about a fixed axis

Rotational axis An imaginary line about which an object can be rotated.

“S” Curve A curving depression on the labial surface of an incisor in the shape of a lazy “S”. The curve starts in the disto-gingival area and blends into the central lobe, causing a pleasing visual blending of the tooth tissue. The “S” curve tends to accentuate the length and fullness of the mesial lobe and shorten the distal lobe, enhancing the long axis of the tooth.

Secondary Anatomy The features of a tooth that come after the primary anatomy. On a posterior tooth, the secondary grooves.

Smile Line A curved line that follows the Incisal edges of the centrals and laterals and the tips of the cuspids.

Soft esthetic composition An arrangement of the anterior teeth that you can use to create a softer, more delicate appearance for a patient. The standard female composition is thus: 1. Centrals flat to the front of the mouth, one depressed slightly from the other, on the occlusal plane and vertical on profile. 2. Laterals on the curve of the arch, depressed at the neck, mesials rotated out, 1 to 2 mm shorter than the centrals. Rotate one lateral slightly to the distal on the labio-lingual axis and the other slightly to the mesial. 3. Cuspids on the curve of the arch, 1 to 3mm shorter than the centrals, rotated out slightly at the gingival with the mesials rotated slightly out and the distals in

Stable Reference A source of information which never changes.

Strong esthetic composition An arrangement of anterior teeth that you can use to create a stronger, more aggressive appearance for a patient. The standard male composition is thus: 1. Centrals flat to the front of the mouth, one depressed slightly from the other, on the occlusal plane and vertical in profile. 2. Laterals on the curve of the arch, depressed from the centrals, mesials rotated in, 1 to 2 mm shorter than the centrals. 3. Cuspids on the curve of the arch, 1 to 3mm shorter than the centrals, rotated out slightly at the gingival with the mesials rotated slightly out and the distals in.

Subgingival Below the gums. The area of a tooth below the gingival line.

Sulcus A groove or furrow

Symmetrical Having equal or opposite shape and size on either side of a centre line. A mirror image.

Tooth arrangement The esthetic arrangement of the teeth relative to one another and the dental arch.

Turn of the arch The shape of the upper cuspid and its placement in the upper dental arch. The six anterior teeth follow the arch. At the distal of the cuspid, the arch turns sharply to the posterior teeth.

Vermillion Border The area along the crest of the lip bordered by the dry, reddish skin of the outer lip and the moist mucous membrane lining the lip.

Vertical Transitional Line Angle The vertical angles which delineate the transition from the labial surfaces at the mesial and distal lobes into the interproximal embrasures.

Wear Facet A worn surface caused by one tooth touching and wearing against another.

Zenith The area at the highest point of the gingival tissue of anterior teeth (is known as gingival zenith). On the central incisors the zenith is distal to the long axis, on the lateral incisors it is on the long axis and on the canines it is distal to the long axis.