

adjacent or through the gingiva) that extends entirely through the porous exterior portion **102** via the passages **44** (FIG. **4**).

Referring to FIG. **6**, other implant forms may be provided for the porous exterior portion and a core on the implant to receive soft tissue in addition to, or rather than, bone. For instance, the implant **200** is a one-stage implant with a trans-gingival flared end **202** that extends coronally from an endosseous portion **212** of the implant **200**. In this case, an exterior portion **204** on the flared end **202** may be in the form of a full or partial ring that is mounted around a core **206**. A treatment **210** is applied to the outer surface **208** of the core **206** as with implant **10**.

Referring to FIG. **7**, in yet another form, the abutment **300** has a porous exterior portion or ring **302** mounted around a core **304** on the abutment to receive soft tissue when the abutment is mounted on a separate two-stage dental implant. The core **302** has an outer surface **306** with a treatment **308** as explained above with implant **10**.

By another approach, the treatment areas mentioned herein are zones, and each implant may have a number of zones where each zone has a treatment selected to accomplish a different purpose. In one form, there are at least two distinct zones along the longitudinal axis of the implant, whether the zones are adjacent or spaced from each other. In one case, one or more zones may be placed within bone and its treatment is selected for bone growth, while other zone or zones extend within soft tissue and their treatment is selected for soft tissue growth (or to establish a barrier as mentioned above). The zones in bone may be particularly selected to grow cortical or cancellous bone. In one form, the implant **10** may have a number of axially spaced partial or full rings for bone growth for example. In the illustrated example, implant **200** may also have one or more zones **214** for soft tissue growth and one or more porous or treated zones **216** (shown in dashed line on FIG. **6**) for bone growth. Similarly, abutment **300** may have one or more of the zones and may be supported with an implant that has one or more of the zones.

It will also be understood that the combination of a porous exterior portion intentionally covering a treated area of an interior portion may be used on endosseous implants other than dental implants including implants along the length of a bone, or an implant at joints such as for knees, hips, shoulders, elbows, the spine, and so forth.

While this invention has been described as having a preferred design, the present invention can be further modified within the spirit and scope of this disclosure. This application is therefore intended to cover any variations, uses, or adaptations of the invention using its general principles. Further, this application is intended to cover such departures from the present disclosure as come within known or customary practice in the art to which this invention pertains and which fall within the limits of the appended claims.

What is claimed is:

1. An implant device, comprising:

a head portion at a coronal end of the implant device, the head portion having a threaded exterior surface configured to engage a patient's anatomy and an interior portion extending apically from the head portion, wherein the interior portion includes a non-circular outer periphery in a cross-section extending perpendicular to a longitudinal axis defined by the implant device;

an exterior portion, separate from the interior portion, that receives the interior portion, the exterior portion form-

ing an exterior surface of the implant device and being made of a porous material defining passages extending entirely and radially through the exterior portion; and an anchor portion at an apical end of the implant device, the anchor portion defining a bore that engages an apical end of the interior portion, and the anchor portion having an outer surface including a thread, wherein the exterior portion is retained on the interior portion between the head portion and the anchor portion when the anchor portion is engaged with the interior portion.

2. The implant device of claim **1**, wherein the interior portion has an outer surface forming at least one generally longitudinally extending flute, the at least one generally longitudinally extending flute extending around less than a total circumference of the interior portion.

3. The implant device of claim **2**, wherein the outer surface includes a plurality of the generally longitudinally flutes circumferentially arrayed around the interior portion.

4. The implant device of claim **1**, wherein the non-circular periphery comprises at least one flat surface engaging the exterior portion.

5. The implant device of claim **1**, wherein the non-circular periphery is at least one of:

polygonal,
curved, and
ovaline.

6. The implant device of claim **1**, wherein the non-circular periphery comprises at least one concave curved surface.

7. The implant device of claim **6**, wherein the interior portion has at least two of the concave curved surfaces adjoining at a junction forming a peak for engaging the exterior portion.

8. The implant device of claim **7**, wherein the peak forms an edge for cutting into the exterior portion.

9. The implant device of claim **1**, wherein the interior portion includes an outer surface with a treated area adjacent to the exterior portion and accessible from the exterior surface through the passages, the treated area having a treatment for direct attachment to bone or soft tissue.

10. The implant device of claim **9**, wherein the treatment comprises the treated area having at least one of:

a roughened surface;
at least one a bio-reactive coating;
threads;
annular groves;
surface recesses, and
at least one porous coating.

11. An implant device, comprising:

a head portion at a coronal end of the implant, the head portion having a threaded exterior surface configured to engage a patient's anatomy and an interior portion extending apically from the head portion, wherein the interior portion includes an outer surface having at least one generally longitudinally extending flute extending around less than a total circumference of the interior portion;

an exterior portion, separate from the interior portion, that receives the interior portion, the exterior portion forming an exterior surface of the implant and being made of a porous material defining passages extending entirely and radially through the exterior portion; and an anchor portion at an apical end of the implant, the anchor portion defining a bore that engages an apical end of the interior portion, and the anchor portion having an outer surface including a thread, wherein the exterior portion is retained on the interior portion