Referring to FIG. **18**, a short and wide dental implant **400** has a body **402** with the same or similar structure to that of body **302** on implant **300** except here a porous portion **404** has exterior, porous threads **406** for adding further support and stability. Implant **400** may also have a non-porous strengthening collar **410**, similar to collar **316**, and core **408**, similar to core **309**, if present. While the implant **400** may be threaded into a bore in the jaw bone, in an alternative procedure, the implant **400** is press-fit into the jaw bone bore. The outer edges of the threads contact the bone and provide the initial stability. Over time, the bone will osseointegrate between the individual threads to rotationally lock the implant **400** in place.

Referring to FIG. **19**, a one-piece dental implant **401** has exterior, porous threads **403** and the same or similar general structure as that of implant **400** (FIG. **18**) except that it further includes an abutment section **405**, as with implant **301** (FIG. **17**), that is integral to a non-porous strengthening collar **407** and/or non-porous core **409**, if present. It would be understood that the abutment section **405** could also be made integral to the porous threads **403**.

It will also be understood that the short and wide implants **300**, **301**, **400**, and **401** may take advantage of many of the design elements from any of the other implants described herein and vice-versa. For instance, it will be appreciated that the body **302** or **402** may include at least one reinforcing member extending through the porous metal portion, as disclosed with implant **200** (FIG. **13**).

Turning to FIGS. **21-23**, in another aspect of the implants, an implant body **600** has a generally cylindrical shape and includes an axially extending core **602**, which can be made of a suitable biocompatible material as mentioned above, such as titanium, and may be attached to a head, abutment connector, or abutment portion of the implant as also described above. Here, however, the core **602** has a plurality of radially extending ribs **604**, and separate porous bodies or sectors **606**, formed of porous material as described above. The porous material is disposed between the ribs **604**, extends radially to contact bone, and is attached to the core **602** as described above for the other implants.

A cylindrical outer surface **608** of the implant body **600** is formed by alternating distal surfaces **610** of the ribs **604** and surfaces **612** of the porous sectors **606** such that, in one form, the porous material extends less-than the full circumference around the implant body **600**. In the illustrated form, the porous sectors **606** and ribs **604** extend from a coronal end portion **614** to an apical end portion **616** of the implant body **600**, but this need not always be the case (e.g., the ribs or porous portion could stop short of the other of the porous portion and ribs in the coronal-apical direction). Similarly, while four porous sectors **606** are shown to be placed between four ribs **604**, more or less ribs and separate porous sectors may be used.

Many other variations with a ribbed core are also contemplated. For example, the porous sectors **606** may not be entirely separated from each other, and may be linked together by one or more grooves **618** (shown in dashed line on FIG. **22**) on the outer surface **610** of one or more of the ribs **604**. Porous bridges may link adjacent porous sectors **606** through apertures **620** (also shown as dashed line on FIG. **22**) in the ribs **604**. Referring to FIG. **23**, as yet another alternative, instead of ribs extending to the outer surface of the implant body **600**, a core **622** may be provided with ribs **624** that extend short of the full diameter of the implant body **600**. In this case, all, or an axial portion (in the coronal-apical direction), of one or more ribs **624** may be entirely buried within one or more porous bodies **626**.

While the illustrated examples are dental implants, it will be understood that such structure, with bone-embedded sections of porous material such as porous metal or porous tantalum that have heights about the same as its width, or that have any of the other structures described herein, may be applied to implants for anywhere on an animal or human body.

While this invention may have 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. A dental implant, comprising:

a body including:

a core formed from a biocompatible material, the core defining a coronally accessible internal bore having an internally threaded surface for connection to a separate abutment;

a reinforcing collar integral with the core, the reinforcing collar formed from the biocompatible material and configured for receiving mastication forces, the reinforcing collar defining an opening of the coronally accessible internal bore; and

a porous metal layer including a first porous metal formed on at least a portion of the core for engaging bone, the porous metal layer having an outer apical to coronal height of about 4 mm to about 6 mm and defining a body outer diameter of about 4 mm to about 6 mm, wherein the first porous metal and the biocompatible material comprise different materials.

2. The dental implant of claim **1**, wherein the outer apical to coronal height and the body outer diameter are approximately the same.

3. The dental implant of claim **1**, wherein the outer apical to coronal height and body outer diameter are both approximately 6 mm.

4. The dental implant of claim **1**, wherein the porous metal layer covers a majority of the body.

5. The dental implant of claim **1**, wherein the implant generally defines a full circumference, and wherein the porous metal layer covers less than the full circumference of the implant.

6. The dental implant of claim **1**, further comprising a resorbable material filling at least a portion of the porous metal layer.

7. The dental implant of claim **1**, wherein the porous metal layer forms a sleeve covering the core.

8. The dental implant of claim **1**, wherein the first porous metal includes tantalum.

9. The dental implant of claim **1**, wherein the body further comprises a head portion with an abutment interface for connection to the separate abutment.

10. The dental implant of claim **9**, wherein the abutment interface includes an anti-rotational surface.

11. The dental implant of claim **1**, wherein the internally threaded surface of the bore is formed at least partially from a second porous metal.

12. The dental implant of claim **1**, wherein the reinforcing collar further comprises a less than entirely smooth exterior surface to promote bone growth against the exterior surface.