

SwissPlus Implant System, Part 2: Prosthodontic Aspects and Intersystem Comparisons

Joel L. Rosenlicht, DMD*

The need to simplify clinical procedures and improve the reliability and esthetics of restorations has resulted in an evolution of implant¹⁻⁶ and abutment designs over the last two decades.⁷⁻¹⁰ Restoring a two-stage implant with a cemented restoration has traditionally necessitated the purchase of a healing collar to maintain the soft tissue opening after the second-stage uncovering, an impression post and an implant replica to transfer the location of the implant platform to the working cast, and an abutment to support the restoration. To correct for undesirable implant angulation, gold abutments have often been used to serve as the base for custom-cast posts.

Today, many implant systems provide a wide variety of straight and angled abutments in different diameters, angles, and shapes to address a broad range of restorative applications. Individual abutment designs, however, may often differ from one system to another, because of the unique mechanical requirements of each implant design.¹¹⁻¹² Implant platforms,¹¹ for example, may vary according to the implant diameter and the type of implant-abutment connection (eg, internal hexagon, external hexagon, spline, friction post, conical, grooved, etc.). In addition, the esthetic approach to fixed partial denture restorations has spawned multiple abutment options with different diameters,

Incompatibility between implant systems and the increasing complexity of esthetic restorative options frequently require dentists to obtain special training in the selection and use of prosthetic components. SwissPlus System implants have been designed to simplify restorative procedures by eliminating many ancillary restorative components. The implants are packaged on a fixture mount that also functions as a transfer and as an abutment for cemented restorations. For multiple-unit, screw-retained restorations, the prosthesis can be splinted directly to

the top of the implant without an intermediate abutment. Overdenture attachments, straight, angled, screw-receiving, and custom-cast abutments complete the restorative system. This paper presents an overview of the SwissPlus System's prosthodontic aspects. Test data also illustrate intersystem compatibility and differences between SwissPlus System implants and ITI syn-Octa implants. (Implant Dent 2002; 11:249-257)

Key Words: dental implants, multifunctional components, full contour, interfacial gap

emergence profiles, cuff heights, angles, machined margins, and composition materials. Some systems also require a variety of corresponding healing collars and transfers to match the emergence profiles of the selected abutments. This proliferation of restorative components, compounded by the problem of intersystem design differences, may often necessitate special training merely to teach dentists how to properly select and use implant restorative components.

This paper reports on a new, one-stage implant system designed to simplify traditional clinical and laboratory procedures by eliminating many ancillary restorative components. The system comprises straight and tapered implant options. This report will present an overview of the prosthodontic system and its multifunctional components. In addition, results will be presented on *in vitro* evaluations conducted to determine the system's

prosthetic compatibility with another system.

MATERIALS AND METHODS

Prosthodontic Overview

Fixture mount/transfer. The SwissPlus System (Centerpulse Dental, Carlsbad, CA) features one-stage, straight and tapered implant designs with internal octagon (SwissPlus, Tapered SwissPlus) or internal hexagon (Tapered SwissPlus) connections (Figs. 1-2). Each implant is packaged on a fixture mount that interlocks with the implant's internal connection and overlaps the beveled edge of the implant's prosthetic platform. A 2-mm high surgical cover screw that matches the emergence profile of the fixture mount is included in the packaging. The fixture mount is designed to function with a ratchet or wrench-type drill to seat the implant into the osteotomy,

*Private Practice, Manchester, CT; Associate Clinical Professor, New York University.