

Abstract

Purpose The OsteoBridge[®] Diaphysis system is a resection implant for segmental, diaphyseal bone defects because of tumours in long bones. It is not adapted for the radius. Therefore a system for the radius should be developed in cooperation with Merete Medical GmbH. The development was focused on the fixation of the nails.



Abbildung 1: OsteoBridge[®] Radius

Methods The dimensions and loads of the radius are based on a literature review. Furthermore comparable products of competitors are gathered in a market research. There are no products available which cover these specific indications.

Results A system for the radius based on the OsteoBridge[®] Diaphysis system is developed with the aid of the recorded data. The spacer consists of two cylindrical half-shells and is attached by means of eight screws to two intramedullary nails. It has a diameter of 16 mm. Because of the small diameter of the bone the nails have ribs for rotational stability. There are different nails for cemented and uncemented implantation available. The dimensions of the nails are based on anatomical conditions and loads.

Conclusion Possible hazards could be excluded or reduced by risk analysis. After successful mechanical tests, the system can be used to treat defects in the radius.