7 Summary

With the development of casting systems it is to be made certain that the mechanical and physical characteristics of the cast piece correspond to the high requirements in the oral cavity.
The aim of this present investigation was to examine the mechanical characteristics in dependency of the influence of different casting systems.
Six samples off five different alloys were cast and compared with five different casting systems. The mechanical characteristics were determinated with the tensile test in accordance with DIN EN 10002-1 and the hardness test by Vickers. A microscopic investigation of the structure followed.
The centrifugal casting systems Fundor T, Fornax G and Fornax T as well as the vacuum pressure casting systems Nautilus MC+ and Nautilus T of the company BEGO were examined. The alloys with a high gold content Bio PontoStar, PontoLloyd G, PontoLloyd L, Bio PlatinLloyd and PlatinLloyd 100 of the company BEGO were investigated.
The results indicate that the used different casting systems do not obtain significantly different mechanical characteristics.
The microscopic investigation indicates a tendency for the advantage of the centrifugal casting systems. These casting systems revealed in this investigation finer granular structures, than alloys, which were casted with vacuum pressure casting systems.
Preference can be given to the platinum-metal-rich alloys, because for these a clearly finer granular and homogeneous structure could be proven.
Test specimens cast with an open flame (Fundor T casting machine) revealed similar results as the other investigated casting systems.
All casting systems obtained with all alloys clinical sufficient results.