



The effect of sprue design on the fit of three-unit bridges

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Statement of problem : Conventional techniques for implant framework fabrication produce significant error that is inconsistent with passive-fit requirement for osseointegrated implants. One of etiologic factors which caused the error is sprue which may deform the framework during solidification and contraction.

Purpose : This study was aimed to evaluate objectively the effect of three sprue designs on the accuracy of fit of three unit bridges.

Materials and method : Three different designs were considered relative to casting accuracy effect. The first design had straight sprues and a button of excess alloy at the non-casting end of the sprues. The second

had straight sprues and no button of excess alloy. The last had indirect sprues and two main sprues connected to a runner bar. There is a button of excess alloy at the non casting end of the main sprues after casting. It was for decreasing variables affecting to casting accuracy that gold cylinder and lab analogue had been used. Gold alloy and pressure-vacuum casting machine had been used.

Results and conclusion : The following conclusion were obtained;

1. The design of sprue affects casting accuracy of casing framework.
2. The second and third sprue design was statistically more accurate than the first.