Statement of problem: The effects of fabrication methods on the corrosion resistance of frameworks produced with Co-Cr alloys are not clear.

Purpose: The purpose of this in vitro study was to evaluate the electrochemical corrosion resistance of Co-Cr alloy specimens that were fabricated by conventional casting, milling, and laser sintering.

Material and methods: The specimens fabricated with 3 different methods were investigated by potentiodynamic tests and electrochemical impedance spectroscopy in an artificial saliva. Ions released into the artificial saliva were estimated with inductively coupled plasma-mass spectrometry, and the results were statistically analyzed. The specimen surfaces were investigated with scanning electron microscopy before and after the tests.