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Crown Finishing Lines By General Dentists: Should They Be Improved?

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Objective: To evaluate full veneer crown (FVC) preparation finish line depths and configuration types from a cohort of General Dentists (GDs), compared to the standard recommended in literature, drawing pedagogic implications.

Method: Working gypsum dies of FVC preparations (n=124) from respondent GDs practising in London U.K were scanned using the inEOS Blue® scanner. Finish line depth and configuration types at 8 fixed points were measured using the inLab 4.0® software. The data were collated, analysed and compared to the recommendations made in the dental literature. Intended preparation finish line configurations were stated by 20.1% (25/124) GDs. The actual and intended configurations were also evaluated.

Results: GDs under-prepared finish lines compared to intended depths. The metal crowns (MC) showed no agreement (K=0.118) and the porcelain fused to metal crowns (PFM) showed weak agreement (K=0.141) between intended and actual finish line configurations. Overall finish line depths for MC (mean=0.45mm) were in line with values stated in the literature. Measured finish lines for Lithium Disilicate (IPS e.max Press®) (mean=0.64mm), zirconia (mean=0.62mm) and buccal finish lines for PFM (mean=0.71mm) were all under prepared compared to values stated in literature. Finish line configuration types were prepared as per the recommendations in literature.

Conclusions: Although finish line configurations are being prepared to those stated in literature, GDs under-prepare finish line depths of FVCs compared to their intended depths and the depths recommended in literature with the exception of MC. This may adversely affect the emergence profile, aesthetics, function and longevity of the crown restorations provided. There are clear pedagogic implications for the undergraduate dental curriculum. In relation to continuing professional development, the appropriate training bodies should provide relevant, quality, user-friendly and lifelong continuing professional development programmes. GDs should also avail themselves to continue to maintain clinical acumens and up-to-date knowledge for the benefit of their patients.