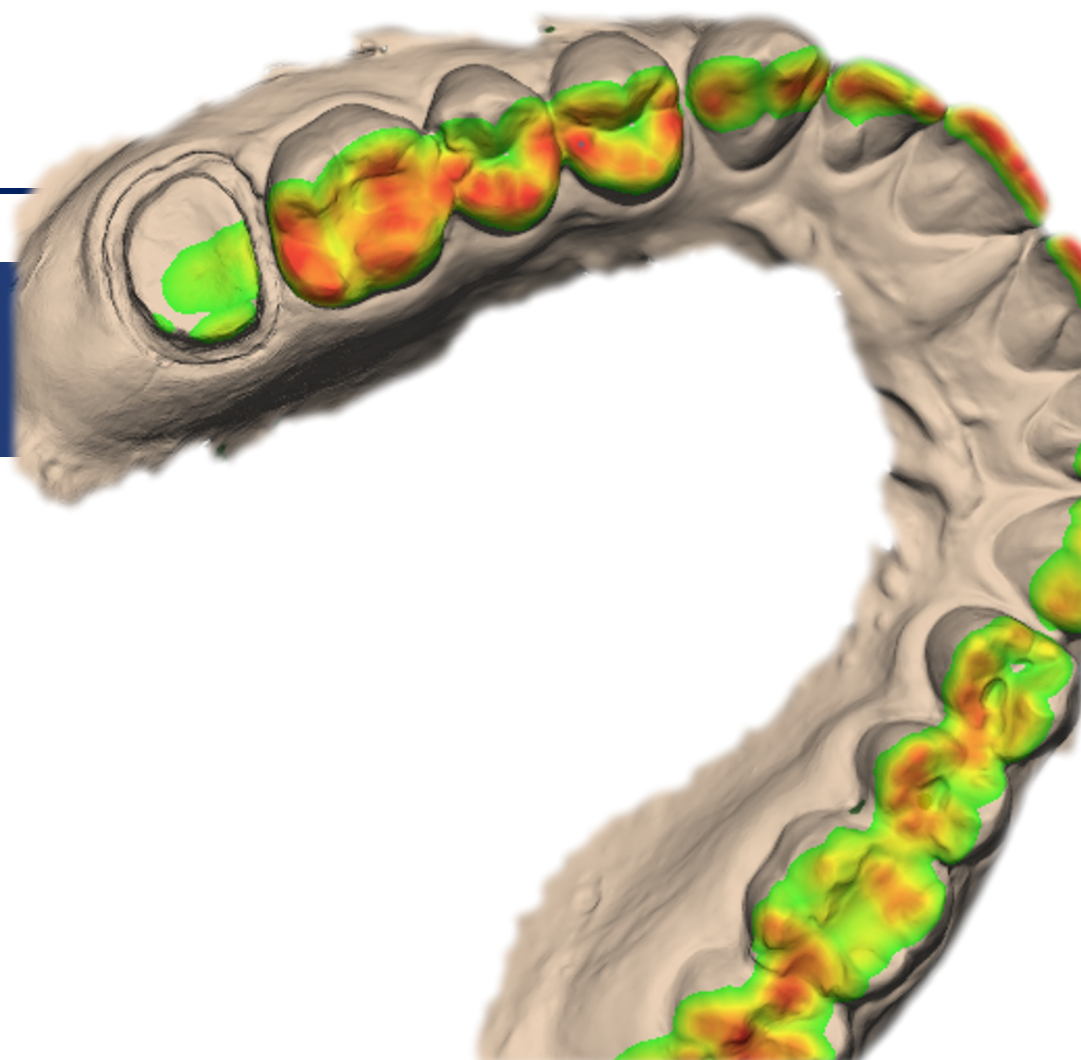
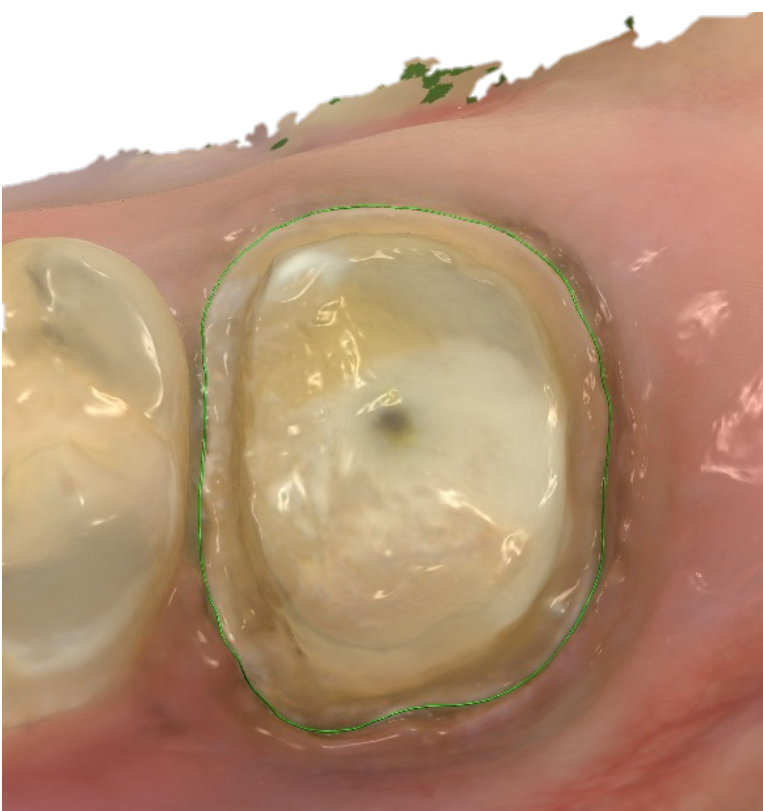




Aims & Objectives

1. Present a **Systematic Review** comparing the clinical fit of a single tooth-borne restoration following a digital *versus* a conventional protocol
2. Present a **Case Series** performed in a Dental School setting, and to provide clinical workflow recommendations

Systematic Review

Methods

- Following PRISMA guidelines
- Databases: OVID/Medline, CINHAL, EMBASE, Cochrane
- Published literature from 08/01/2012 - 08/01/2022

Conclusions

- No significant difference between the clinical acceptability of digital vs analog impressed restorations
- Digital restorations demonstrated:
 - More accurate marginal and interproximal fit
 - Decreased chairside adjustment and impression time
 - Increased patient acceptance

Methods

- Pilot study – 5 posterior single unit tooth-borne PFM crowns
- 3 student providers and faculty calibrated on study workflow

Timed Impression Work Flow

1. 2 cord analog full arch impression, full arch opposing, and bite reg (timed)
2. 2 cord digital impression with Trios 3 Shape Scanner (timed)
3. Send both to lab for fabrication

*cord packing not included in time to impress

Timed Chairside Work Flow

1. Contact adjustment (timed)
2. Margin adjustment (timed)
3. Radiographic assessment
4. Occlusal adjustment (timed)
5. Cement superior restoration with RMGI

Inclusion/Exclusion Criteria

- Pt. acceptance in study
- Subgingival <1mm
- >17yrs of age
- Posterior dentition
- No clinical symptoms
- Opposing dentition

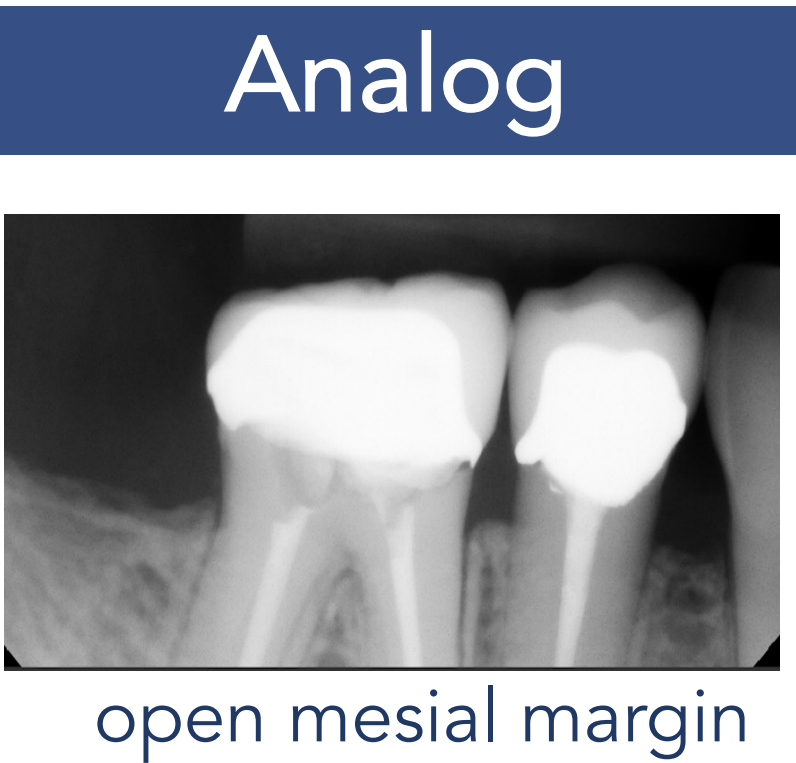
Limitations

- Multiple Providers
- Different posterior teeth/arch
- Different lab technicians
- Not blinded

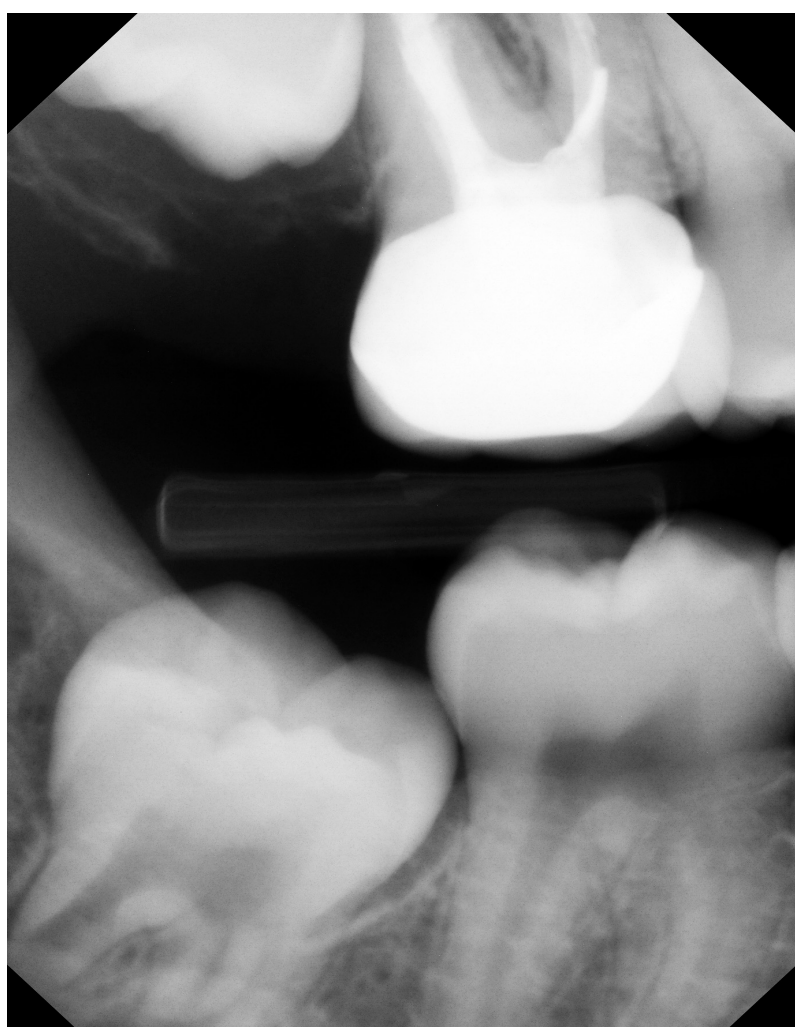
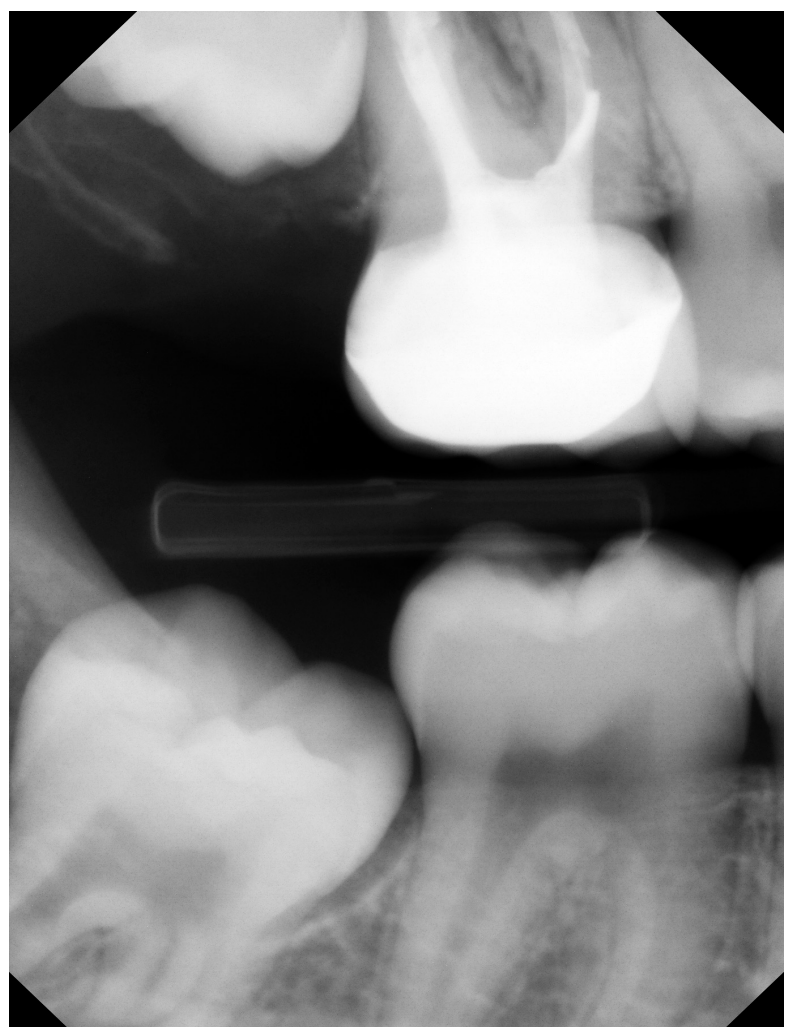
Pilot Study - Case Series

Cases

Case 1
#30



Case 2
#2



Initial Occlusion



Initial Occlusion

Preliminary Results

Mean Adjustment Time	Analog	Digital
Intaglio	0	0
Interproximal contact	7.82 +/- 1.87	3.80 +/- 0.63
Occlusion	5.75 +/- 0.35	5.7 +/- 0.77

Table 1. Mean chairside adjustment time (mins) with standard deviation for analog and digital PFM crowns

	Analog	Digital
Mean Impression Time	11.95 +/- 0.63	8.3 +/- 1.27
Mean Chairside Adjustment Time	13.57 +/- 2.27	9.5 +/- 1.41

Adjustment Surface	Analog	Digital
Mesial	2	2
Distal	0	0
Intaglio	0	0
Occlusion	2	2

Table 2. Surfaces adjusted (per crown) on analog and digital PFM crowns

Table 3. Mean total chairside adjustment time (mins) and impression time (mins) with standard deviation

Conclusions

- Digital cases demonstrate:
 - Less chairside adjustment
 - Less time to impress
 - No difference in total surfaces adjustment
 - Increased patient acceptance
- Upon conclusion of pilot, tests performed will include:
 - Independent t test

Recommendations

- To improve occlusal accuracy of the restoration to decrease chairside adjustment time, we recommended comparing the TRIOS generated occlusal heat map to clinical occlusion via articulating paper prior to sending to the lab for final fabrication