Our Supervisors!
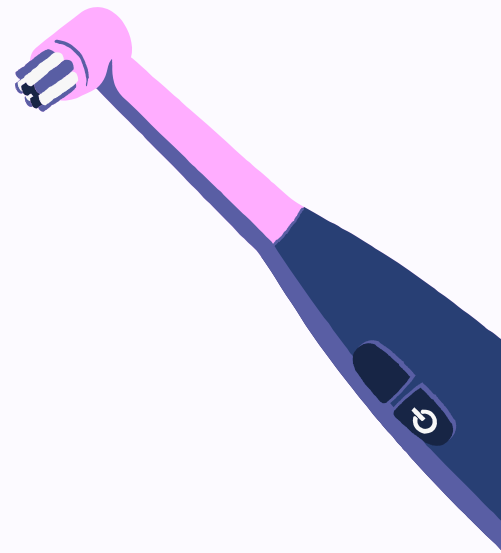
Dr. Peter McDermott

**Assistant Director:
Quality Improvement**

Dr. Jacinta Santos

**Assistant Dean:
Learner Experience**

Schulich
MEDICINE & DENTISTRY

Observerships

Sim Lab

Paediatrics Clinic

Lecture
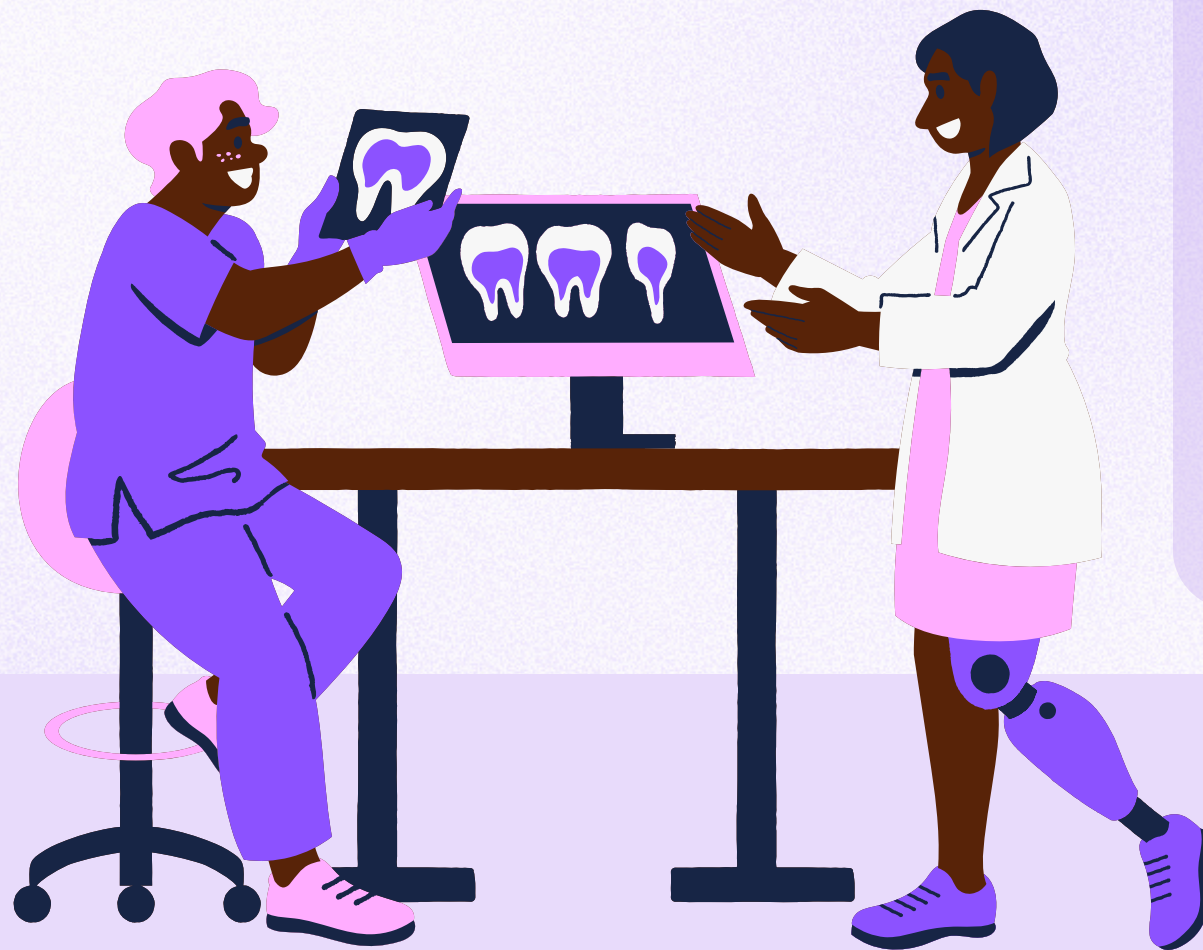
Paediatric Observership

Dr. Keith Da Silva

Paediatric Dentistry & Public Health

- Learned to adapt communication and behaviour styles

- Observed how to assess and handle different patient temperaments

- Gained insight into proper oral care for young children

- Explored ways to ensure children receive consistent care and don't get overlooked

What is an Intraoral Scanner?

- Hand held device

- Takes thousands of images in patient's mouth

- Images put together to create 3D model

- Model displayed on screen
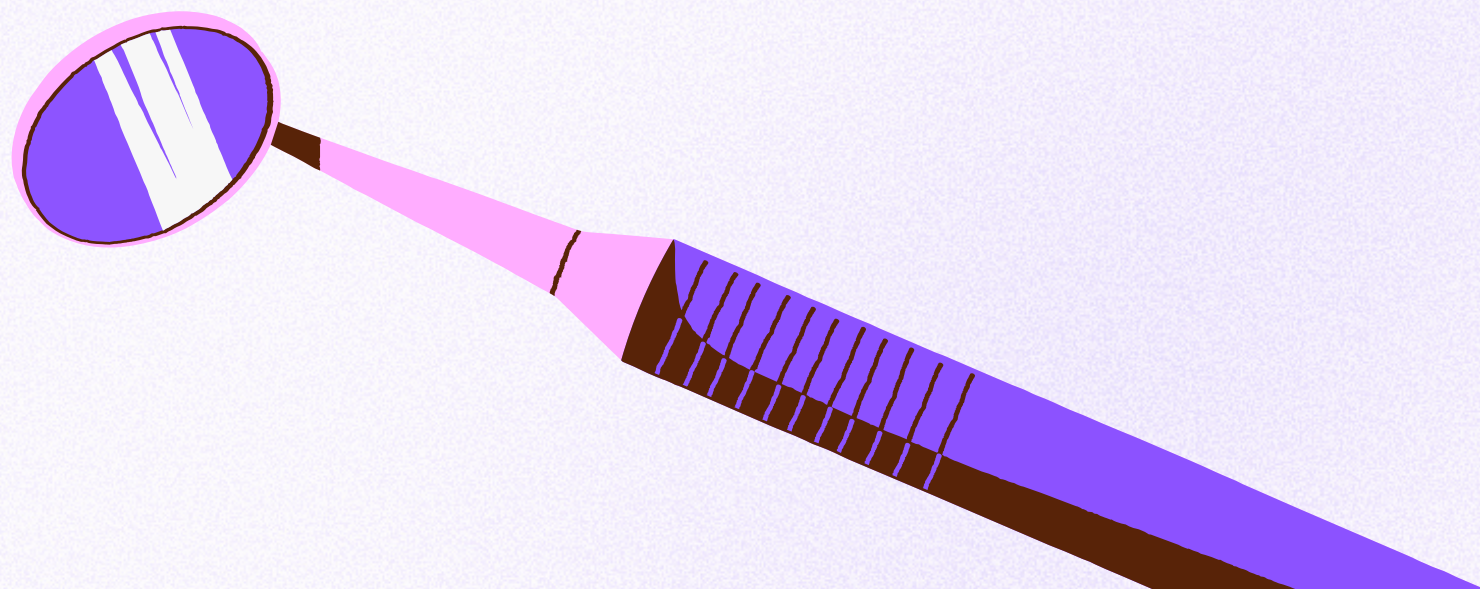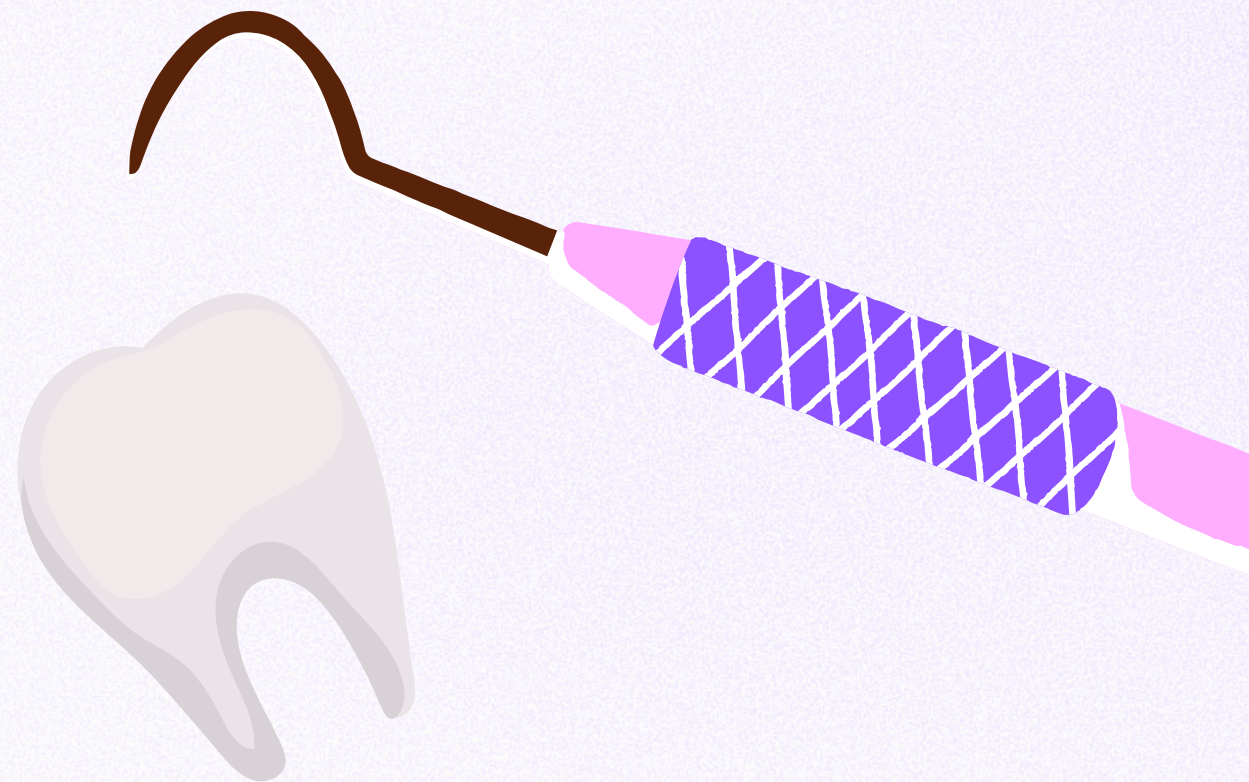
Intraoral Scanners & Education
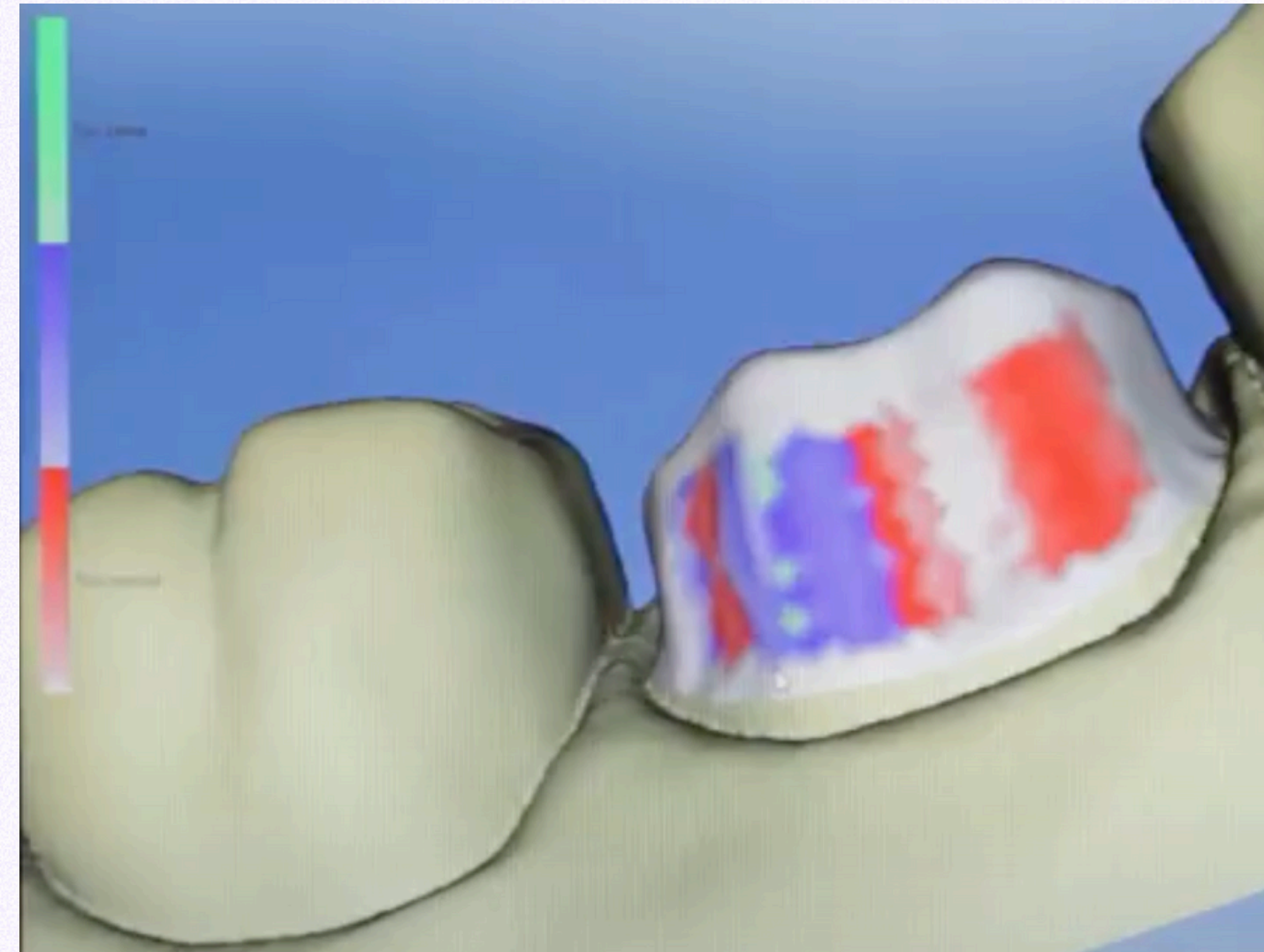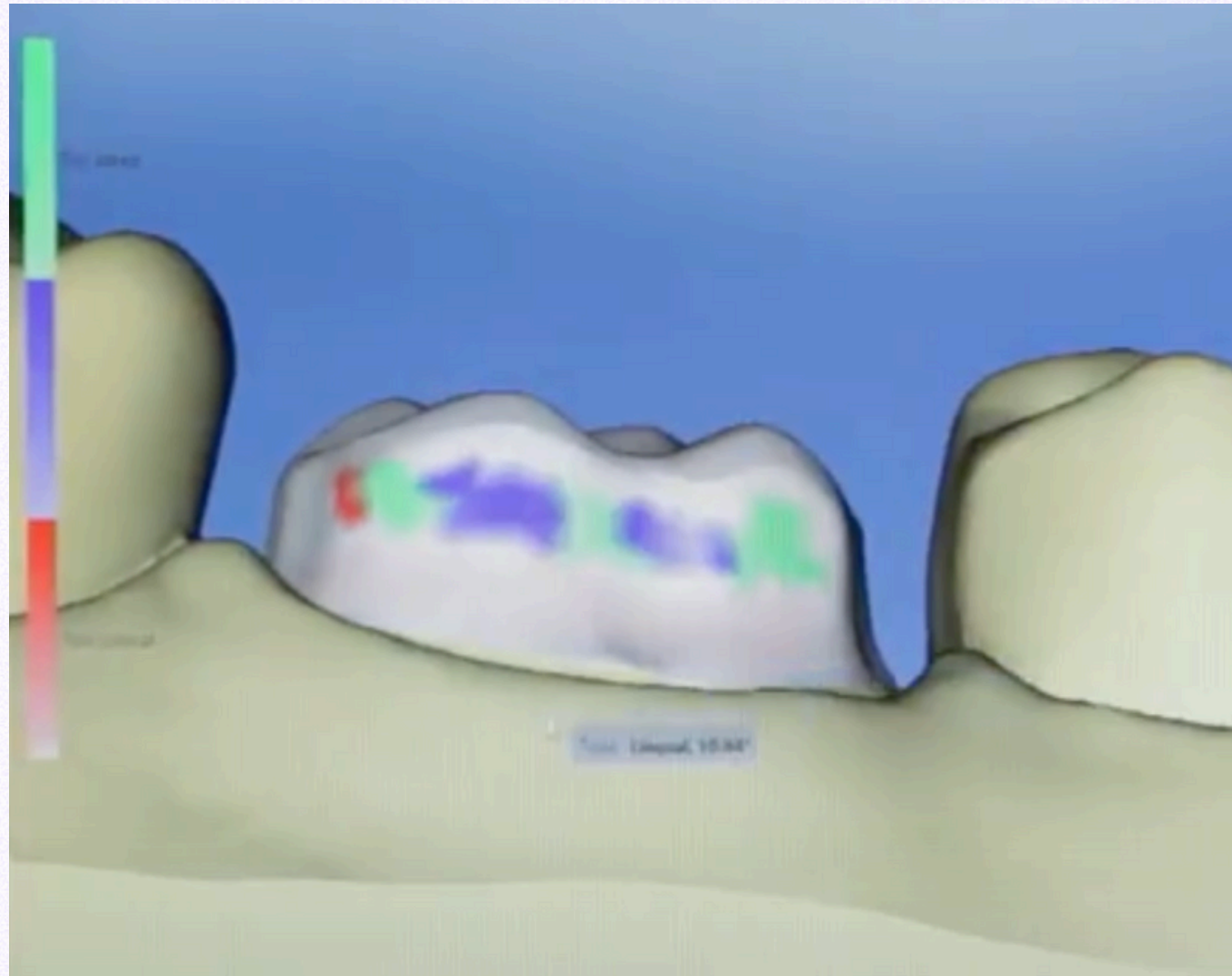
Green – The result is **not within** the specified **value range**, however the user is still **able to improve** the preparation

Blue – The result is **within** the specified **value range**

Red – The Result is **not within** the specified value range and **no further improvements** are possible

Developing the Research Objective

Finalized Objective:

To assess the impact of digital scanners on **interrater reliability** and dental students' **self-awareness** of their work, particularly concerning understanding **learning objectives** during preclinical training in dental schools.

Search String

Initial Keyword Identification

→

Combining Search Strings

→

Supervisor & Librarian Consultations

→

Database Testing

→

Obstacles

→ **Scopus**

Database	PubMed/MEDLINE	Ovid/Embase	Scopus	Web of Science
With Quotations	43	12	99	10
Without Quotations	1,135	20	???	98

Search String WITH quotation marks:

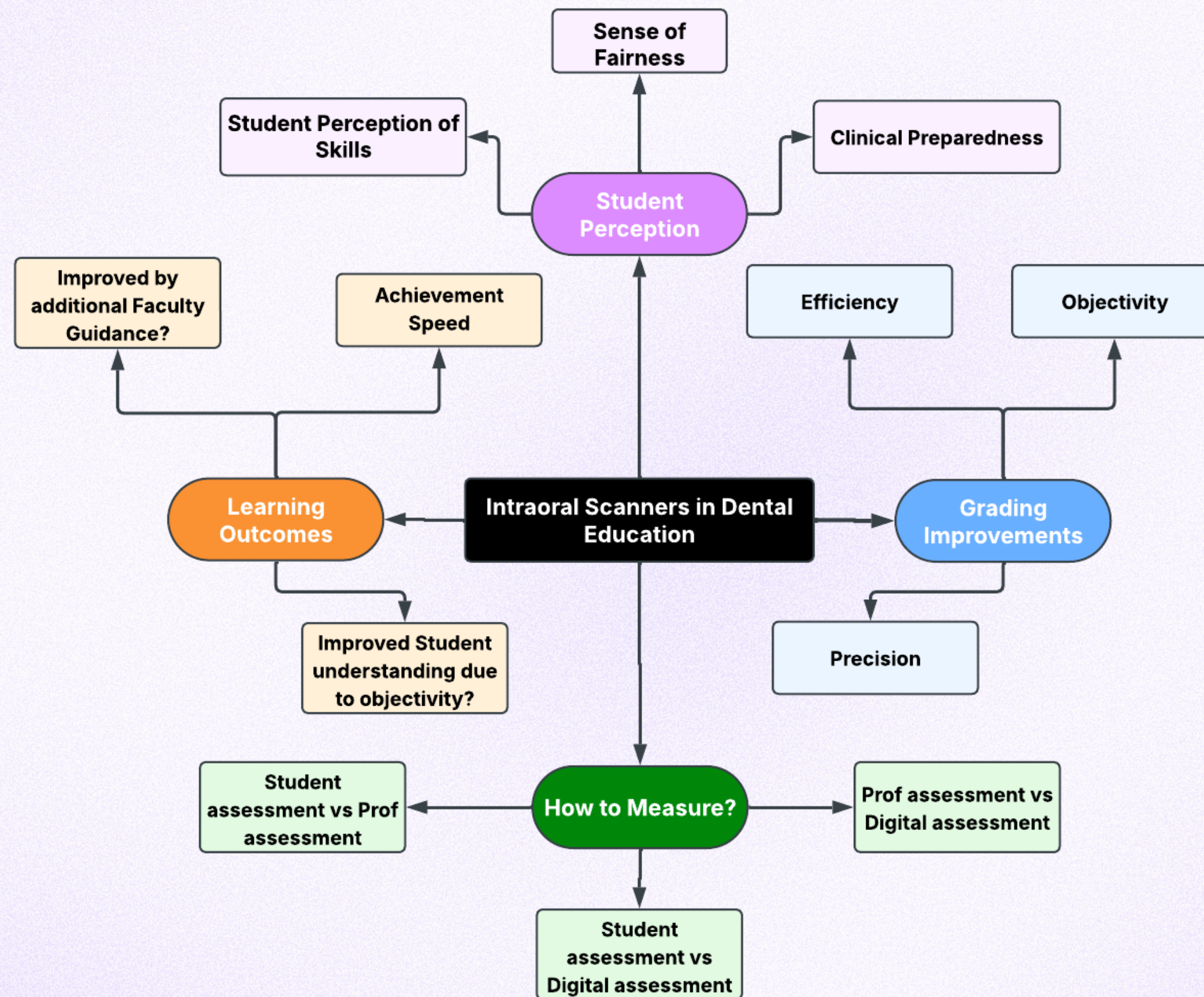(("undergraduate dentistry" OR "dental education" OR "DDS program" OR "DMD program" OR "dental students" OR "dental curriculum" OR "dental training" OR "dental school" OR "preclinical dental education" OR "pre-clinical dental education" OR "dental simulation" OR "dental simulation training") AND ("evaluation software" OR "digital evaluation system" OR "CAD-CAM" OR "computer-assisted instruction" OR "computer-assisted learning" OR "computer-aided learning" OR "educational measurement" OR "educational technology" OR "digital assessment tools" OR "simulation-based evaluation" OR "digital feedback systems" OR "student assessment technology" OR "dental e-learning") AND ("intraoral scanner" OR "intra-oral scanner" OR "dental scanner" OR "PrepCheck" OR "Sirona" OR "TRIOS" OR "Itero" OR "3Shape scanner" OR "digital impression scanner" OR "intraoral imaging devices" OR "intraoral imaging" OR "digital scanning in dentistry" OR "digital dentistry tools") AND ("feedback" OR "self-assessment" OR "training methodology" OR "digital grading" OR "student performance evaluation" OR "formative assessment" OR "objective evaluation" OR "competency-based feedback" OR "real-time feedback" OR "adaptive learning feedback" OR "educational outcomes assessment" OR "learning analytics in dentistry" OR "student progression feedback"))

Search string WITHOUT quotation marks:

((undergraduate dentistry OR dental education OR DDS program OR DMD program OR dental students OR dental curriculum OR dental training OR dental school OR preclinical dental education OR pre-clinical dental education OR dental simulation OR dental simulation training) AND (evaluation software OR digital evaluation system OR CAD-CAM OR computer-assisted instruction OR computer-assisted learning OR computer-aided learning OR educational measurement OR educational technology OR digital assessment tools OR simulation-based evaluation OR digital feedback systems OR student assessment technology OR dental e-learning) AND (intraoral scanner OR intra-oral scanner OR dental scanner OR PrepCheck OR Sirona OR TRIOS OR Itero OR 3Shape scanner OR digital impression scanner OR intraoral imaging devices OR intraoral imaging OR digital scanning in dentistry OR digital dentistry tools) AND (feedback OR self-assessment OR training methodology OR digital grading OR student performance evaluation OR formative assessment OR objective evaluation OR competency-based feedback OR real-time feedback OR adaptive learning feedback OR educational outcomes assessment OR learning analytics in dentistry OR student progression feedback))
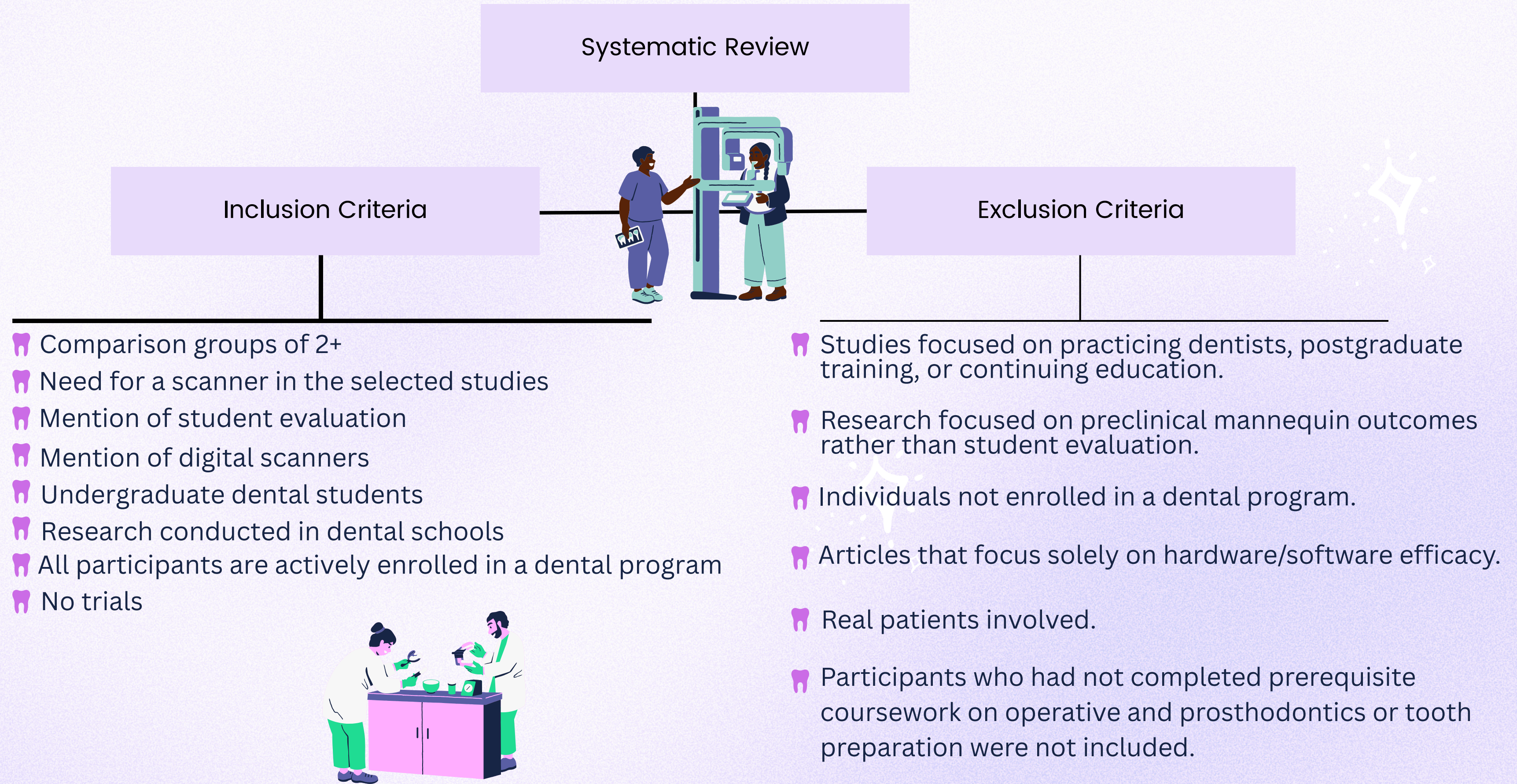
Inclusion & Exclusion

Systematic Review

Inclusion Criteria

🦷 Comparison groups of 2+
🦷 Need for a scanner in the selected studies
🦷 Mention of student evaluation
🦷 Mention of digital scanners
🦷 Undergraduate dental students
🦷 Research conducted in dental schools
🦷 All participants are actively enrolled in a dental program
🦷 No trials

Exclusion Criteria

🦷 Studies focused on practicing dentists, postgraduate training, or continuing education.

🦷 Research focused on preclinical mannequin outcomes rather than student evaluation.

🦷 Individuals not enrolled in a dental program.

🦷 Articles that focus solely on hardware/software efficacy.

🦷 Real patients involved.

🦷 Participants who had not completed prerequisite coursework on operative and prosthodontics or tooth preparation were not included.

Protocol Development

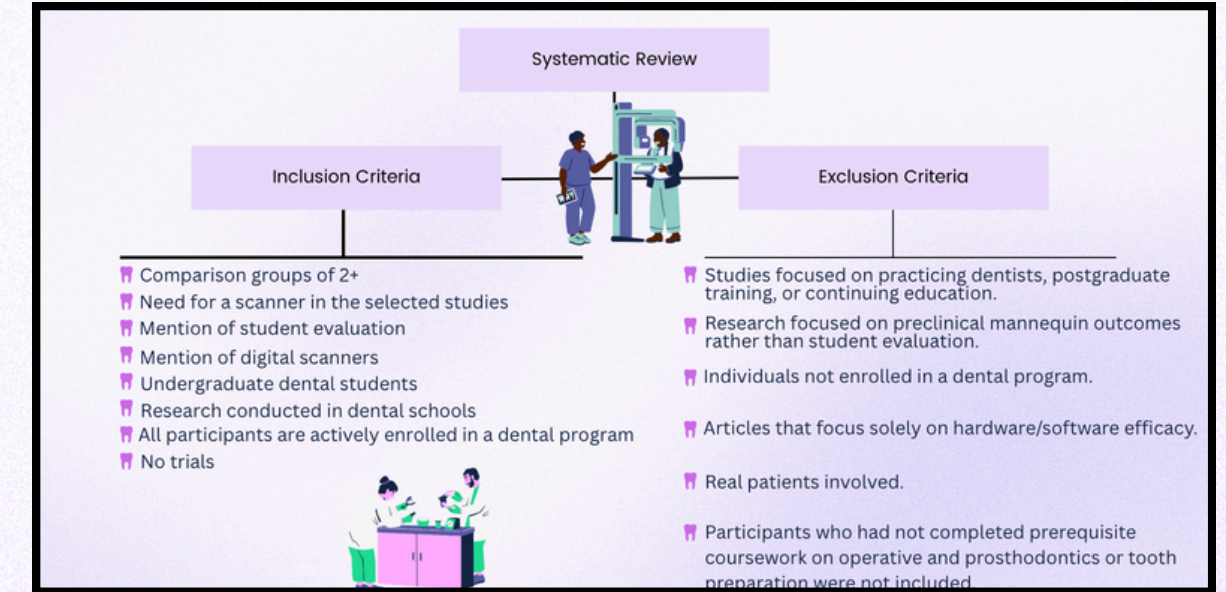**Background and Rationale**

Objectives

Methods

Registration & Dissemination

Timeline

- Primary Objective
- Secondary Objectives

- Search Strategy
- Study Selection Process
- PRISMA Flowchart
- Data Extraction
- Data Synthesis

Systematic Review

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PROSPERO
International prospective register of systematic reviews

Thank you!

To our partners