

## **SUPPLEMENTARY MATERIAL**

### **Accuracy of treatment recommendations by pragmatic systematic search and artificial intelligence: an exploratory study**

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**Supplementary Table S1.** Search Strategy from Ovid Medline.

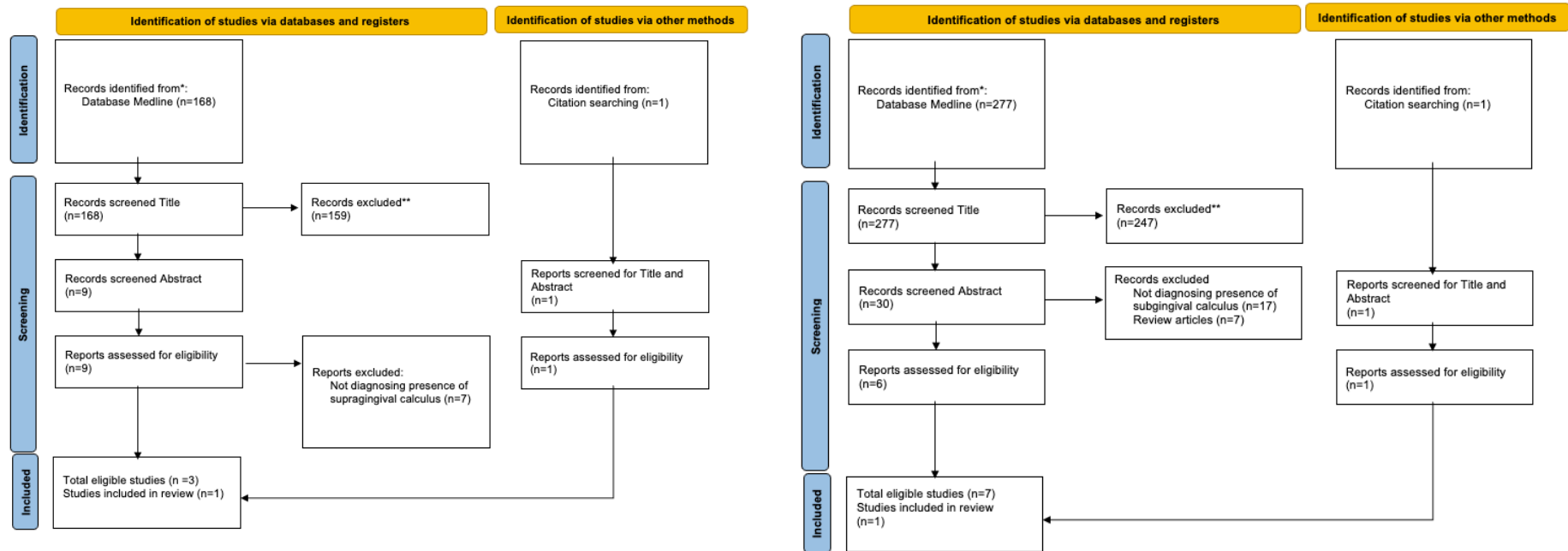
| <b>Dental condition</b>    | <b>Search strategies</b>   | <b>Definition used</b>  |
|----------------------------|--|---|
| 1.1 Supragingival calculus | Diagnosis: (“supragingival calculus” or (“supragingival” and “calculus”)) and (“exam*” or “detect*” or “diagnosis*” or “photo*”))  | The presence of supragingival calculus observed through photograph.   |
| 1.2 Subgingival calculus   | Diagnosis: (“subgingival calculus” or (“subgingival” and “calculus”)) and (“radiograph*” or “bitewing” or “BW” or “periapical” or “PA” or “exam*” or “detect*” or “diagnosis*”)) | Radiopaque irregularity at cementoenamel junction or extending beyond or superimposed over the root surface contour on PA or BW radiograph. |

**Supplementary Table S2.** Supragingival Calculus.

|   | <b>Author</b>   | <b>Year</b> | <b>Research design</b>      | <b>Clinical Examination required (Yes/No/ Not specified)</b> | <b>Observation Image type</b> | <b>Diagnostic category</b> | <b>Treatment options</b>   |
|---|---|-------------|-----------------------------|--|-------------------------------|----------------------------|--|
| 1 | Sanz M, Herrera D, Kebschull M, Chapple I, Jepsen S, Beglundh T, et al. | 2020        | Clinical Practice Guideline | Yes  | Photograph                    | Visual detection(1)        | Routine professional mechanical plaque removal (PMPR) to remove supragingival calculus using instrumentation.<br>Deliver oral hygiene instructions.<br>Risk factor assessment and management(1). |
| 2 | Kuka GI, Kuru B, Gursoy H.  | 2023        | RCT                         | Not specified  | Photograph                    |                            | Can utilise universal cures (4L-4R) to remove supragingival calculus. This results in smoother surface morphology(2).  |
| 3 | Gao YZ, Li Y, Chen SS, Feng B, Wang H, Wang Q.                          | 2021        | RCT                         | Not specified  | Photograph                    |                            | Er:YAG lasers may be used as an adjunct with subgingival curettage. This reduces plaque index levels(3).   |

**Supplementary Table S3.** Subgingival calculus.

|   | <b>Author</b>  | <b>Year</b> | <b>Evidence type</b>        | <b>Clinical Examination required (Yes/No)</b> | <b>Observation image type</b> | <b>Diagnostic category</b>                                     | <b>Treatment options</b>  |
|---|--|-------------|-----------------------------|---|-------------------------------|--|---|
| 4 | Buchanan SA, Jenderseck RS, Granet MA, Kircos LT, Chambers DW, Robertson PB. | 1987        |                             |   | Periapical radiograph         | Radiographic detection. Periapical radiograph may be used (4). |   |
| 1 | Sanz M, Herrera D, Kebschull M, Chapple I, Jepsen S, Beglundh T, et al.      | 2020        | Clinical Practice Guideline | Yes   |                               |  | Routine professional mechanical plaque removal (PMPR) to remove subgingival calculus using instrumentation. Deliver oral hygiene instruction. Risk factor assessment and management(1). |
| 5 | Zhang X, Hu Z, Zhu X, Li W, Chen J.  | 2020        | Systematic review           |   |                               |  | Manual subgingival scaling with Gracey curettes is more effective for 4-6mm pocket depths(5).   |
| 6 | Manresa C, Sanz-Miralles EC, Twigg J, Bravo M.                               | 2018        | Systematic review           |   |                               |  | No additional benefit to use antibiotics or photodynamic therapy with mechanical debridement (6).   |



**Supplementary Figure S1.** PRISMA 2020 for systematic reviews, which included searches of databases, registers and other sources for the diagnosis of supragingival calculus and subgingival calculus.

## References

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6. Manresa, C.; Sanz-Miralles, E.C.; Twigg, J.; Bravo, M. Supportive periodontal therapy (SPT) for maintaining the dentition in adults treated for periodontitis. *Cochrane Database Syst Rev*. **2018**, *1*, CD009376.
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