HOW THE PHASE I. CONVENTIONAL PERIODONTAL THERAPY CAN IMPROVE PERIODONTAL ATTACHMENT LEVEL??
GINGIVITIS
CHRONIC PERIODONTITIS
Effectiveness of mechanical nonsurgical pocket therapy

How effective is nonsurgical debridement compared with surgical therapy?
THE IMPROVEMENT OF INDIVIDUAL SUPRAGINGIVAL ORAL HYGIENE HAS MINIMAL EFFECT ON THE MASS AND COMPOSITION OF SUBGINGIVAL BACTERIAL PLAQUE AND CONSEQUENTLY ON TISSUE HEALTH.
BASELIN

THE RESULT OF NON-SURGICAL POCKET THERAPY
THE RESULT OF NON-SURGICAL POCKET THERAPY
THE RESULT OF SURGICAL POCKET THERAPY
The improved supragingival oral hygiene has minimal effect on the therapeutic results but has decisive effect on the success of periodontal maintenance.
Effectiveness of mechanical nonsurgical pocket therapy

Jean E. Suvan

The context

A number of systematic reviews have been published on the subject of mechanical nonsurgical pocket therapy. They have provided summaries of evolving perspectives which continue to inform and direct further research. This chapter aims to address the set question ‘what is the effectiveness of mechanical nonsurgical pocket therapy?’ through the review of published systematic reviews. At the same time as examining the effectiveness, this article will highlight current knowledge of the effect, efficacy, and efficiency of this therapy, addressing the question in the context of what is known about the four ‘E’s (effect, efficacy, effectiveness, efficiency). The objective is to appraise and discuss research synthesis results and conclusions, providing a summary of clinical implications between research findings and clinical practice. In its attempts to get closer to the truth, it carries with it an underlying principle and goal to minimize bias in all contexts: clinical care, research, and setting of health policy (19, 84).

Although suggested as early as 1884 by Lord Rayleigh in an address to the British Association for the Advancement of Science (29), it was only in the mid 1980s that the healthcare community began to accept that interpretation and clinical application of single study results in isolation was unethical and impossible. The mandate was set that critical summaries were needed to improve patient care (89). This prompted the development of research synthesis methodologies and increased efforts by all healthcare disciplines, including dentistry, to provide systematic reviews that would facilitate decision making (69).
Mechanical nonsurgical pocket therapy has long been documented as part of periodontal therapy.

In the 1950s plaque or calculus, were thought to be a physical irritant to the gingival tissues.
the rational for mechanical nonsurgical pocket therapy

therapies directed at removal or disturbance of the plaque biofilm and removal of factors facilitating biofilm formation


In 1984, Badersten et al. concluded: nonsurgical mechanical debridement of the periodontal pocket will result in
- improvement of gingival health,
- arrest disease progression,
- reduce the risk of tooth loss

MEAN POCKET DEPTH REDUCTION FOLLOWING SUBGINGIVAL SCALING AND ROOT PLANING

FOUR WEEKS FOLLOW-UP

<table>
<thead>
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<th>NON SCALED</th>
<th>SCALED</th>
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<tr>
<td>PI 8 week</td>
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<td>PI 25 week</td>
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<tr>
<td>GI 0 week</td>
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<td>PPD 8 week</td>
<td>6,5 + 0,9</td>
<td>5,3 + 1,0</td>
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<tr>
<td>PPD 25 week</td>
<td>6,5 + 0,8</td>
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## CHANGES IN SUBGINGIVAL MICROFLORA IN THE SCALED AND NON-SCALED POCKETS


<table>
<thead>
<tr>
<th>bacteria</th>
<th>non-scaled</th>
<th>scaled</th>
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<tbody>
<tr>
<td>coccoid and rods</td>
<td>41%</td>
<td>42%</td>
</tr>
<tr>
<td>coccoid and rods</td>
<td>43%</td>
<td>82%</td>
</tr>
<tr>
<td>coccoid and rods</td>
<td>39%</td>
<td>75%</td>
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<tr>
<td>motile and spirochetes</td>
<td>55%</td>
<td>49%</td>
</tr>
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<td>motile and spirochetes</td>
<td>48%</td>
<td>13%</td>
</tr>
<tr>
<td>motile and spirochetes</td>
<td>51%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Subgingival scaling and root planing are effective:

- Reduces inflammation even in very deep pockets but provides no definite results.
- Reduces pocket depth.
- Slows down the progression of attachment loss.
- Sometimes provides clinical attachment gains.
THE REGULAR PROFESSIONAL SUPRA AND SUBGINGIVAL SCALING AND EXCELLENT INDIVIDUAL ORAL HYGIENE SIGNIFICANTLY REDUCES THE RECURRENCE OF PERIODONTAL INFLAMMATION AND GUARANTEE THE PERIODONTAL HEALTH
Mechanical debridement in initial therapy

Five reviews considered mechanical nonsurgical pocket therapy as a part of initial therapy or initial therapy combined with maintenance therapy.

The effect of manual vs. machine-driven instruments, with or without adjunctive agents.

CONCLUDED:

- Hand and machine-driven instruments appear to be comparably efficacious in the reduction of probing pocket depth,
- Both types of instruments gave results substantially better than those in untreated controls, confirming the benefit of mechanical debridement.

Comparing the efficacy of hand instruments to machine-driven instruments in mechanical debridement.

- No evidence of a difference in the efficacy of the two instruments,
- Machine-driven instruments being suggested to be faster.

Mechanical debridement in maintenance therapy

In clinical practice, maintenance therapy effectiveness has been based partially on extrapolation of effect and efficacy of debridement in initial therapy and partly on the role of the biofilm in disease pathogenesis.

ORAL HYGIENE IN THE MONITORED AND NON-MONITORED GROUPS

Gingivitis in the monitored and non-monitored groups

6 years follow-up

MEAN ATTACHMENT LOSS IN THE MONITORED AND NON-MONITORED GROUPS

6 YEARS FOLLOW-UP

Mechanical debridement as control therapy for antimicrobial therapies


Scaling and root planing results were comparable to combined therapy confirms that mechanical nonsurgical pocket therapy is successful in improving clinical parameters. This review provides solid evidence that mechanical nonsurgical therapy is efficacious alone.

Results in the control groups, - the mechanical debridement alone in control groups, were comparable to results in systematic AB treated groups

Reviews showing significant pocket depth reduction and clinical attachment gain, therefore confirming the efficacy of this therapy.

‘there is insufficient evidence to support the use of systemic antibiotics as a mono-therapy in periodontitis patients’.

The review endorses mechanical debridement as a foundation therapy for the adjunctive use of systemic antimicrobials.

The authors state that scaling and root planing alone had a positive effect on probing pocket depth reduction,

In periodontitis patients, mechanical nonsurgical pocket therapy reduces inflammation, pocket depth, and increases clinical attachment level.
INITIAL THERAPY I

In periodontitis patients, mechanical nonsurgical pocket therapy reduces inflammation, pocket depth, and increases clinical attachment level.

The magnitude of pocket depth reduction correlates with greater pocket depth before treatment.
INITIAL THERAPY I

- In periodontitis patients, mechanical nonsurgical pocket therapy reduces inflammation, pocket depth, and increases clinical attachment level.
- The magnitude of pocket depth reduction correlates with greater pocket depth before treatment.

  Nonsurgical mechanical debridement may cause loss of attachment in shallow pockets (≤ 3 mm).
INITIAL THERAPY II

There is no evidence of a difference in efficacy of machine-driven (ultrasonic and sonic) and hand instruments (in single rooted teeth) Machine driven instruments may be faster than hand instruments
INITIAL THERAPY II

• There is no evidence of a difference in efficacy of machine-driven (ultrasonic and sonic) and hand instruments (in single rooted teeth). Machine-driven instruments may be faster than hand instruments.

• Adjunctive therapies have been developed and investigated, but, to date, no therapy exists as a stand-alone replacement for mechanical nonsurgical pocket therapy.
MAINTENANCE THERAPY

In periodontal maintenance patients, mechanical debridement reduces inflammation and disturbs the bacterial biofilm understood to be key in disease control, including prevention of disease progression.
Generalized aggressive periodontitis
**MAINTENANCE THERAPY**

In periodontal maintenance patients, mechanical debridement reduces inflammation and disturbs the bacterial biofilm understood to be key in disease control, including prevention of disease progression. The effect of mechanical nonsurgical pocket therapy on pocket depth reduction and clinical attachment gain in maintenance patients.