

Supportive therapy in periodontology and implant dentistry

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Treatment steps

- I.) Cause related periodontal therapy**
(Full perio charting, improve self-performed oral hygiene, smoking cessation advice, root surface debridement, extraction of hopeless teeth, cervical fluoride treatment, splinting if necessary, temporary prosthetic treatment, OH monitoring)
- II.) Corrective phase**
(periodontal surgical therapy (resective/regenerative), orthodontic treatment, **implant placement**, prosthetics)
- III.) Supportive periodontal therapy**
(individually planned every 2-6 months, „life-long”, improve oral hygiene skills, professional prophylaxis, cervical fluoride treatment)

Up to date guideline to complex treatment of periodontal patients

Without an effective supportive periodontal treatment the most of the conservative and surgical interventions are unsuccessful!

Prof. Gera I.

Supportive Periodontal Therapy

Terminology

- ❑ Supportive Periodontal Care (SPT)
- ❑ Periodontal Maintenance
- ❑ Recall

Up to date guideline to complex treatment of periodontal patients

Supportive Periodontal Therapy

Aim

Preservation of the stabilized periodontal conditions, which is functionally satisfying, and aesthetically acceptable for the patient.

Life-long sentence?!

Up to date guideline to complex treatment of periodontal patients

Supportive Periodontal Therapy

(77 patients, SPT every 2-3 months for 6 years)

SPT significantly reduces the presence of plaque and thereby gingivitis

axelsson & Lindhe 1981

Supportive Periodontal Therapy

Tools

Self-performed oral hygiene

- monitoring
- motivation
- instructions (if necessary)

Professional oral hygiene

- polishing
- supragingival scaling (if necessary)
- subgingival root surface debridement (if necessary)
- application of fluoride (if necessary)

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Supportive Periodontal Therapy

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Professional prophylaxis

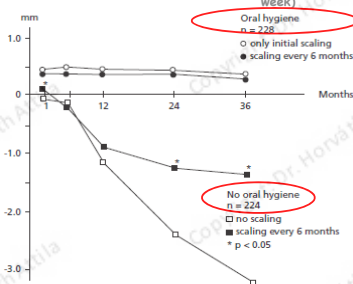
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Supportive Periodontal Therapy

Clinical attachment level (CAL) changes

(beagle dogs; TEST: tooth brushing every day, polishing every 2nd week)



The daily self-performed oral hygiene is more important than the rare professional!

Morrison et al, 1979

Supportive Periodontal Therapy

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To be checked at control visits:

PERIODONTAL STATUS:

1. AMOUNT OF PLAQUE (FMPS)
2. PRESENCE OR ABSENCE OF GINGIVITIS (FMBS)
3. CHANGES OF PPD
4. GINGIVAL RECESSON
5. CHANGES OF CAL
6. FURCATION LESIONS
7. MUCOGINGIVAL ABNORMALITIES



Armamentarium

1. Dental mirror
2. Periodontal probe



Up to date guideline to complex treatment of periodontal patients

Probing Pocket Depth (PPD)

Physiologic (acceptable) probing depth (PPD):

1,5 mm on average, but physiologic up to 3 mm

Pathologic probing depth (PPD):

Above 4mm the stability is not sustainable with self performed oral hygiene, therefore considered as pathologic

PPD ≤ 4 mm
BoP- (no bleeding)

PPD > 4 mm
BoP+(bleeding)

Up to date guideline to complex treatment of periodontal patients

Plaque/Bleeding (FMPS/FMBS)

Tools

monitoring

Full Mouth Plaque/Bleeding Score (FMPS/FMBS)

The percentage of the tooth surfaces covered by plaque/ blood

Dátum: _____ Felvétel neve: _____

FMPS: $\frac{\text{Összesítés} \times 100}{\text{fogak száma} \times 6} = \dots \%$
 FMBS: $\frac{\dots}{\dots} = \dots \%$

Szerkesztés: Egyetem Periodontológiai Osztály, Inyeczák v1.3

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Trials proved evidence that without regular re-instruction, the plaque control will decline even in the dentally highly educated populations

Stewart, J. E. & Wolfe, G. R. (1989) The retention of newly-acquired brushing and flossing skills. *Journal of Clinical Periodontology* **16**, 331– 332.

Prof. Gera I.

Periodontal Supportive Therapy

Supportive Periodontal Therapy

Tools

motivation (MI: Motivational Interviewing)

- Positive highlight (praise, clean surfaces)
- Negative highlight (surfaces, where improvement is needed)
- Patient mirror, oral camera, photo
- Plaque staining

Supportive Periodontal Therapy



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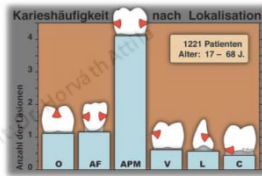
Professional prophylaxis

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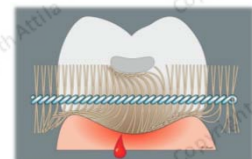
Predilection Sites of Caries and Periodontitis



Dr. Jiri Sedelmayer saját ábrája Dr. Tihanyi Dóra & Dr. Kovács Lilla

The way of effective prevention

- Cleaning of the sulcus
- Cleaning of the interdental areas



Dr. Tihanyi Dóra & Dr. Kovács Lilla

Improving self-performed oral hygiene



Interdental brush (TePe)



Up to date guideline to complex treatment of periodontal patients

Improving self-performed oral hygiene



Interdental brush




Improving self-performed oral hygiene



Interdental brush



Up to date guideline to complex treatment of periodontal patients



iTOP

- Philosophy

Only the individualised oral hygiene can assure the preservation of our natural teeth for a lifetime
- Methodology

touch2teach
- Education


Dr. Tihanyi Dóra & Dr. Kovács Lilla

Touch to teach



Dr. Tihanyi Dóra & Dr. Kovács Lilla

Supportive Periodontal Therapy



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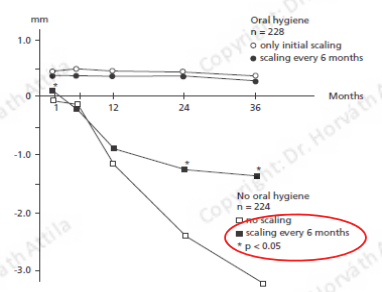
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Supportive Periodontal Therapy



Clinical attachment level (CAL) changes

(beagle dogs; tooth brushing every day, polishing every 2nd week)




The daily self-performed oral hygiene is more important than the rare professional.

Though the regular professional prophylaxis is better than no intervention at all!

Morrison et al. 1979

Supportive Periodontal Therapy



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Supportive Periodontal Therapy

Gracey curette set

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Supportive Periodontal Therapy

Subgingival root surface debridement (RSD)

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Supportive Periodontal Therapy

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- Professional oral hygiene
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Supportive periodontal therapy

Factors determining the frequency of the control visits

Systemic risk factors

- ✓ Immune status
- ✓ Systemic diseases (DM, osteoporosis..)
- ✓ Specificity of periopathogen bacteria
- ✓ Smoking
- ✓ Ethnicity (Genetic factors)
- ✓ Diet
- ✓ Stress
- ✓ Socio-economic factors
- ✓ Age

Prof. Gera I.

Supportive periodontal therapy

Risk Assessment (Lang & Tonetti 2003)

Low risk patients
E.g. check up in every half year

High risk patients
Check-ups 2-3 monthly

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Patient Last Name: **Plakk** First: **Pongrác** Date: **1/1/2016**

BOP% = 27%

Age: **50**

Number of teeth and implants: **26** (1 - 32)

Number of sites per tooth / implant: **2** of **6**

Number of BOP-pos. sites: **42** of **156**

Number of sites with PPD≥5mm: **4**

Number of missing teeth: **6**

% Alveolar bone loss (estimated in % or 10% per term): **30** %

Syst./Gen.: Yes No

Envir.: Non smoker (NS) Former smoker (FS) Occasional smoker (OS) Smoker (S) Heavy smoker (HS)

Polygon surface: **77.9422**

Periodontal Risk: **high**

Suggested Recall interval: **3** Months

Clinical Research Foundation
Periodontal Risk Assessment V3.1
October 30, 2009

design: Sprogam
Christoph A. Ransauer
chris@rnsauer@zmk.unibe.ch

Print
Reset

Supportive periodontal therapy

In the daily routine (Lang, Bragger, Salvi, Tonetti 2008)

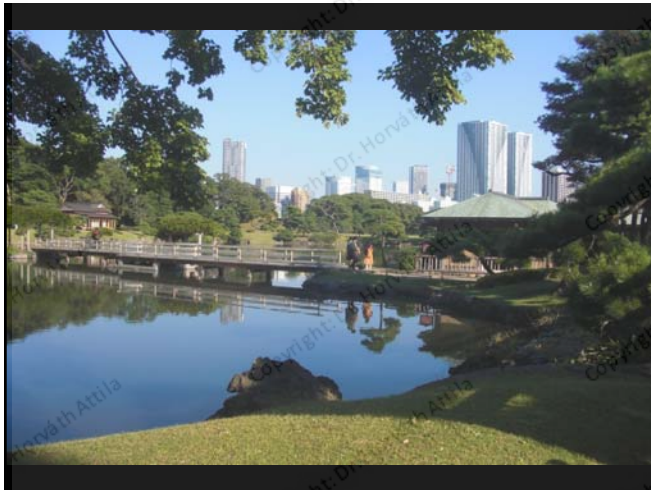
Polishing, fluoride application.
Determining of the next appointment (visit intervals) 10 Min.

Monitoring, reassessment, diagnosis 10-15 Min.

Root surface debridement (as required) 45

Motivation, instruction 5-7 Min.
Scaling, polishing 30-40 Min.

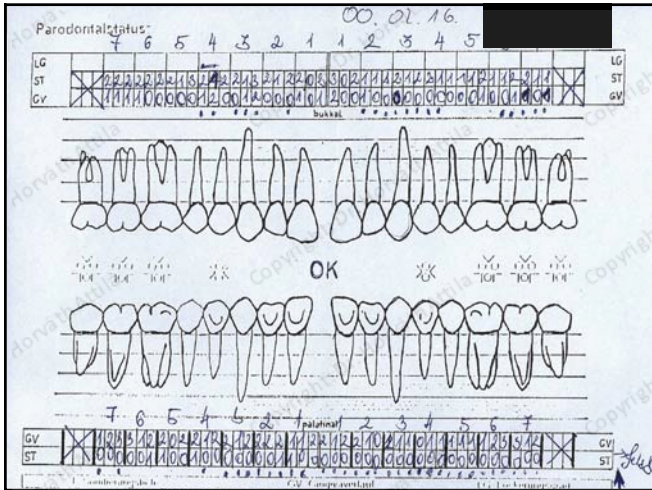
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Case report

PE ♀ 30

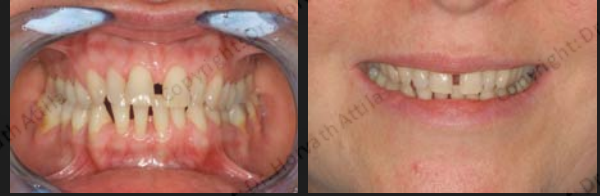
The diagnosis:
1. Zahnfleischentzündung
2. Füllung der Zähne
3. Subgingivale Kariesläsionen



14 years checkup (2013)



17 years checkup (2016)



17 years checkup (2016)



CROSS-ARCH FIXATION OF TEETH WITH SEVERELY REDUCED PERIODONTAL SUPPORT

Laurell L, Lundgren D, Falk H, Hugoson A (1991)

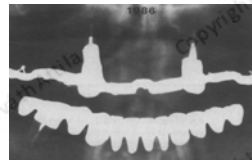
- Retrospective
- 34 periodontally stable pts under SPT
- Advanced bone loss
- 36 cross-arch FPDs with two or more cantilever units unilaterally or bilaterally
- Follow-up: 5-12 yrs

RESULTS:
33 cross-arch FPDs without biologic or technical complications (97%!!)
1 abutment fracture
1 FPD replaced

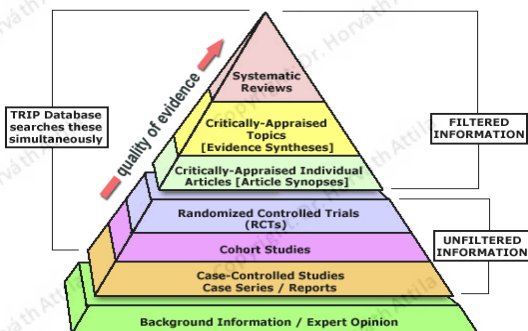
Fardal O & Linden GJ (2010)

- Retrospective
- 80 periodontally stable pts under SPT
- Advanced bone loss
- 77 cross-arch FPDs
- Follow-up: 10 (7-22) yrs

Cross-arch stabilizing bridges constructed for periodontal patients as part of their periodontal maintenance therapy had few complications and were associated with low rates of abutment tooth loss.



pyramid of the evidence



SYSTEMATIC REVIEW The Highest Level of Evidence

Lulic M, Brägger U, Lang NP, Zwahlen M, Salvi GE (2007)

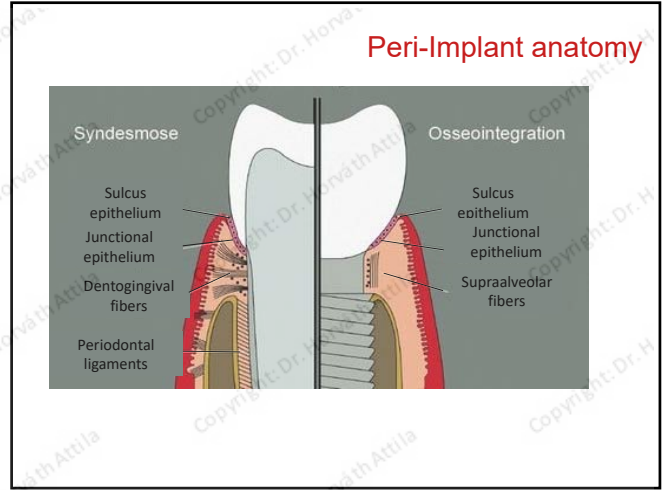
Ante's (1926) Law Revisited: A Systematic Review on Survival Rates and Complications of Fixed Dental Prostheses (Fdps) on Severely Reduced Periodontal Tissue Support

M&M:

- Prospective and Retrospective studies
- Reduced but healthy periodontium
- FPDs (t-t)
- Follow-up: >5Y
- Survival and complication rates

Results

- 6 studies
- Survival: 5Y: 96.4%
- 10Y: 92.9%
- Without endo complication: 93% (10 Y):
- Without caries: 98.1% (10 Y)
- Without re-bonding: 95.5% (10 Y)





BEST TREATMENT IS PREVENTION

1. Thorough planning
2. Precise workmanship
3. Regular maintenance



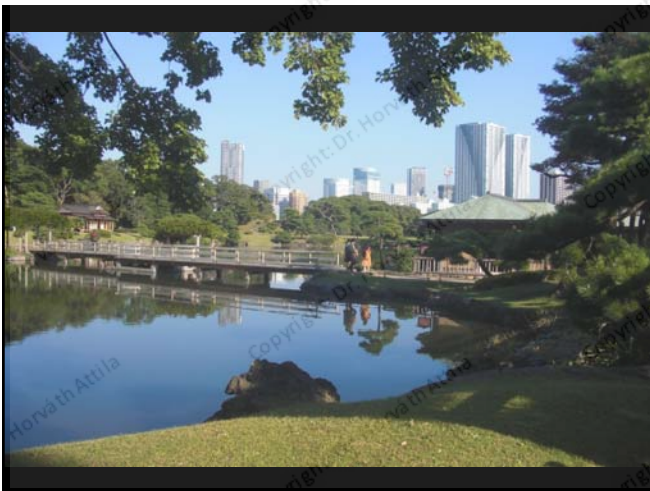

Keys for sustainable implant success

...in addition to the previous

Following implant placement

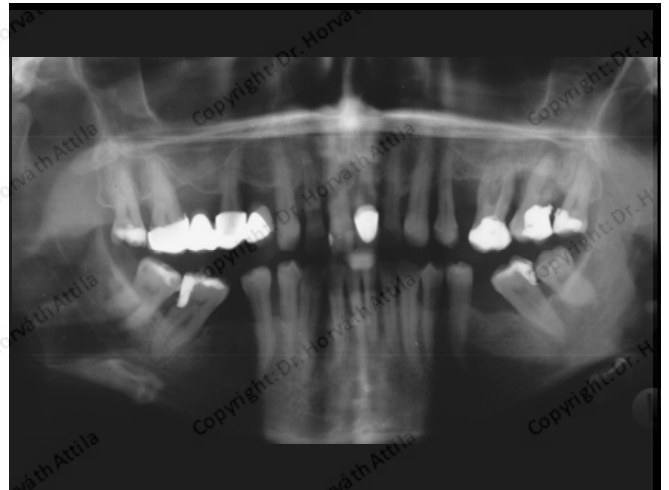
- Control radiograph right after surgery
- Optimal prosthesis planning/delivery
- Avoid overload
- Avoid excess luting cement (screw retained, if possible)
- After loading: „Baseline“ probing (PPD), X-ray, photo documentation
- 6M check up (PPD)
- 1st year control radiograph, PPD
- **3-12 monthly maintenance (FMPS, reassessment, OHI, polishing, X-ray only when needed upon periodontal probing)**

Heitz-Mayfield L, Lang NP (2012)



Practical considerations

Case report



Postgraduate clinic Date: N/A/2006

Doctor: AJH Patient Data: Name: MB Gender: female
 GDP: NA Age: 36y Ethnic origin: caucasian

Referred for: periodontal treatment

Observations: pleasant lady BUT adheres own teeth - refuses extractions, dentures, implants and very cooperative and determined after a while

GENERAL CASE HISTORY

Cardiovascular disease (1) Pregnant (8)
 Blood disease (2) No regular physician care (9)
 Diabetes (3) Medication (10)
 Rheumatic disease (4) Smoker (11)
 Kidney disease (5) CANNOT take LA (12)
 Hormone related disease (6) CANNOT take Ab (13)
 Allergy/hypersensitivity (7) Others (14)

Comments: (1) low blood pressure (7) Allopurin (melamizole sodium), Amidasophen (aminophenason)

SPECIFIC CASE HISTORY

Bleeding gums (1) Aesthetical problems (7)
 Tooth hypersensitivity (2) Functional problems (8)
 Increased tooth mobility (9) Previous perio. Treatment (9)
 Tooth migration (4) Family history (10)
 Bruxing, clenching (5) Others (11)
 Food impaction (6)

Comments: (1) molar region during brushing (4) tilted lower molars, proclined incisors (7) position&shape of upper incisors (8) upper incisors

INTRAORAL STATUS

Soft tissues: inflamed gingiva (mild)

Occlusion and function: Class I, proclination, overjet group function (L&R)

Hard tissues: partial restored dentition



Baseline Evaluation 1

Date	18	17	16	15	14	13	12	11	21	22	23	24	25
Buccal	3 2 4 3 2 3	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4
Palatal	3 2 4 3 2 3	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4
Lingual	4 2 4 3 2 3	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4
Buccal	3 2 4 3 2 3	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4	4 2 4

FMPs: 47%

WHAT ARE THE PATIENT'S PROBLEMS?

Subjectively
 Cannot chew "safely"
 Upper front compromised aesthetics
 Bleeding during brushing

Objectively
 moderate to advanced bone loss
 Gingival inflammation

DIAGNOSES
 Generalised Chronic Periodontitis

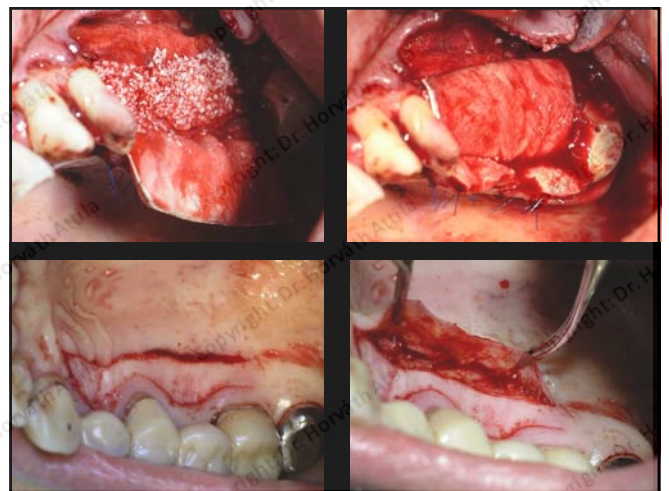
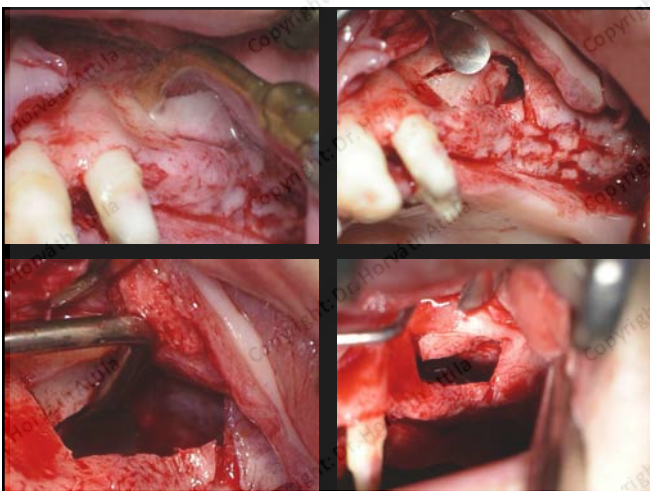
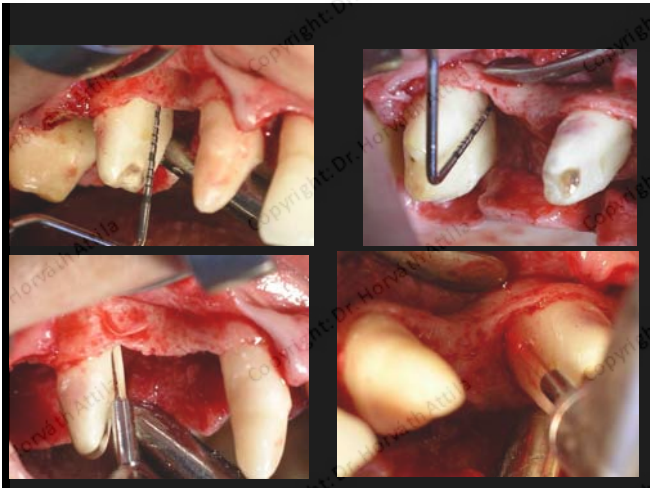
GOAL OF THERAPY
 Arrest disease progression
 maintain dentition

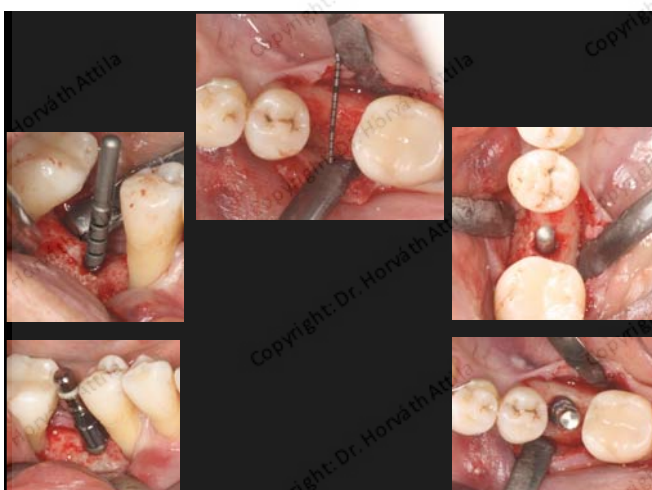
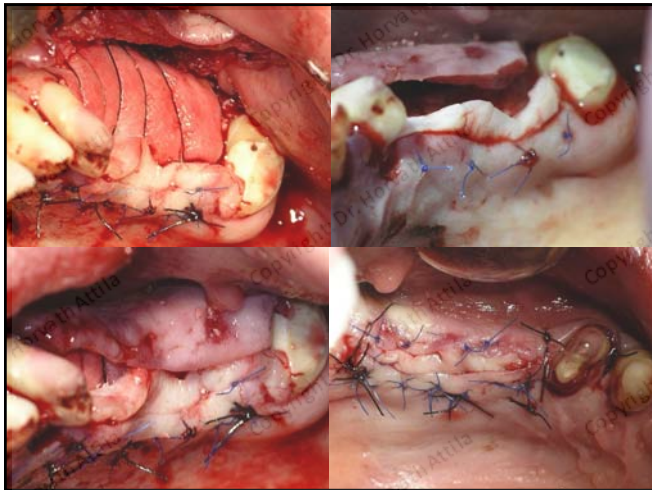
hopless 4 6 7
 questionable 8 7 5 2 1
 secure 3
 8 5 4 3 2 1 2 3 4 5 7 4

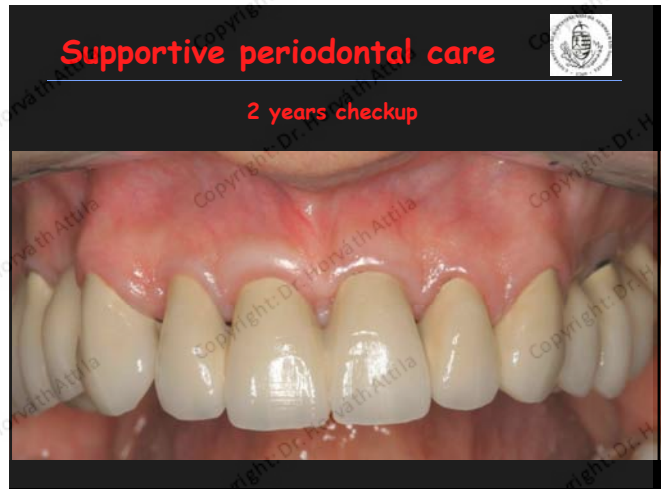
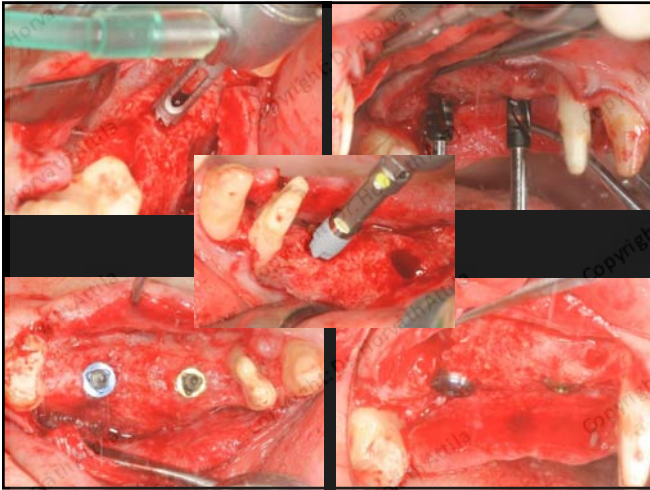
BASIC THERAPY PLAN

- Case presentation
- OHI-motivation
- Root Surface Debriment 4Q under LA, #24,26,27 extraction
- URQ #21, 47 correction of restoration
- Reassessment in BW

After initial phase of perio treatment (RSD)









Supportive periodontal care

Summary

- Stable periodontal conditions provided by **well-performed initial phase** and additional therapies can only be maintained for good **with efficient supportive periodontal care**.
- Pocket formation and periodontal **destruction will re-occur without regular maintenance**.
- The **frequency** of the control visits has to be **individually** determined based on the individual oral hygiene, local and systemic factors of the patients. Usually ranged **between 2 and 6 months**
- The key issue is the **self performed mechanical plaque control** (sulcus, interdental areas). Meanwhile the periodic chemical plaque control and the regularly professional cleaning are just adjunctives.
- Dental hygienists have pivotal role in these procedures.

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