Minimum Intervention Treatment Plan - Putting MI into practice

CLIN 049

Part 1 - MI Identify: Diagnose your patient's susceptibility

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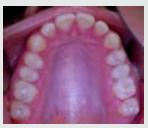
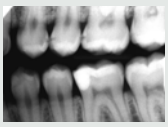
The **Minimum Intervention (MI)** concept is well described in the literature and summarizes the clinical rationale for the preventive and cause related approach in cariology. Many studies showed that treatment decisions in cariology varied markedly among general practitioners (GPs) and that the GPs still wonders "how do I integrate MI in my daily practice?"

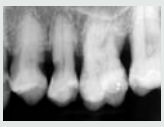
The aim of the Pan-European group of academics and GPs - the GC Europe MI Advisory Board – was to present an evidence based treatment approach for the clinical practice: Minimum Intervention Treatment Plan (MITP).

The **IDENTIFY** part is the first step of the treatment plan.





Even patients with only one filling at age 25 can show a high risk and multiple carious lesions



Adults with good oral hygiene may show an increased caries risk, when saliva productions drops.

MITP sequence is the framework (*Fig.1-2*):

1. **Identify** causes and risk factors of the disease
2. **Prevent** the disease
3. **Restore** the lesions if necessary
4. Control the risk factors in an efficient **recall** program

***Figure 1**: To be successful in practice the continuous cycle has to be maintained*

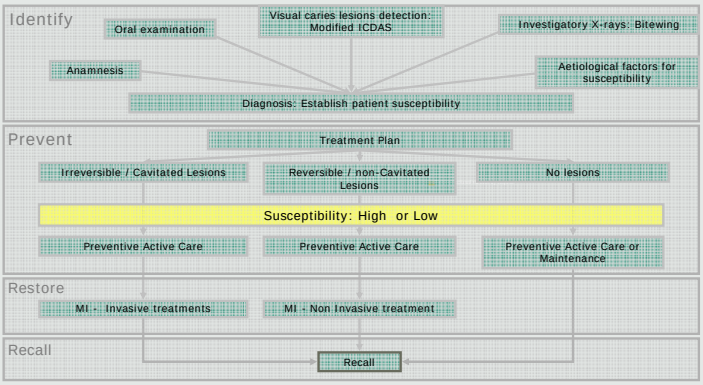


***Figure 2:** The Minimum Intervention Treatment Plan flow chart*

1.Diagnosis, Identify

The goal of a medical diagnosis is to select the best possible treatment. The crude way caries have been diagnosed for years, i.e. to use an explorer and look for cavities is not a diagnosis for a preventive approach.

Clinical signs

The clinical and radiographic signs and symptoms of caries are the starting point. But today the diagnostic threshold must be low, in order to differentiate between caries and non-cavitated forms of caries as well (*Fig.3*). These latter forms can be prevented from progressing, cavitated lesions still must be drilled and filled.

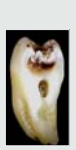
0			No or slight change in enamel translucency after prolonged air drying (>5 s). No enamel demineralisation or a narrow surface zone of opacity
1			Opacity or discolouration hardly visible on a wet surface, but distinctly visible after air drying. Enamel demineralisation limited to the outer 50% off the enamel layer
2			Opacity or discolouration distinctly visible without air drying. No clinical cavitation detectable. Demineralisation involving between 50% of the enamel and the outer third of dentine.
3			Localised enamel breakdown in opaque or discoloured enamel +/- greyish discolouration from underlying dentine. Demineralisation involving the middle third of
4			Cavitation in opaque or discoloured enamel exposing the underlying dentine. Demineralisation involving the inner third of dentine

***Figure 3:** Modified ICDAS scale of visual assessment relating the clinical appearance of the lesion to its histological status: score 0 to 4*

Radiographic signs

Early approximal lesions can only be identified and monitored by Bitewing Xrays (*Fig.4*)

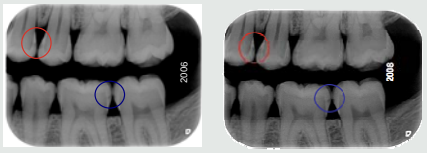
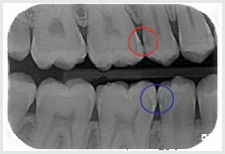
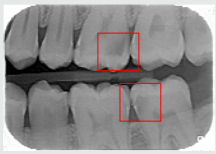


***Figure 4:** Control of initial approximal lesions over a 2 years period*



Bitewings allow to diagnose early lesions in enamel as well as deeper caries close to the pulp chamber



2.Diagnosis, Establish patient susceptibility

The individual susceptibility is the outcome of the diagnosis and gives an indication for the treatment plan. The preventive approach in practice is directed towards the reduction of the risk-factors. Depending on the motivation and cooperation of the patient more or less intensive professional preventive approaches are necessary.

Factors affecting the susceptibility *(Table1)*

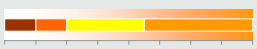
General: diet, fluorides, health, medications, social, age,...

Oral: saliva, OHI, plaque, bacterial balance,...

***Table 1**: Diagnosis and assessment of the patient susceptibility*

STATUS	"Yes" answer UNFAVOURABLE	"No" answer FAVOURABLE
Lesions ≥2 new/progressing /restored lesions in the last 2-3 years?		
General factors		
Diet Frequent snacks between meals? Acidic and carbohydrate-rich diet? Soda consumption? Anorexia, bulimia?		
Fluoride No fluoride (toothpaste/rinse/water)?		
Health Chronic disease, Chimiotherapy, Radiation to head and neck?		
Medications Hyposalivatory medication?		
Social Low socio-economic status?		
Age Adolescent? Elderly?		
Oral factors		
OHI Less than 2 brushings per day?		
Saliva Stimulated saliva flow <0.7ml.min? Low buffer capacity? Acidic saliva pH?		
Plaque Readily visible heavy plaque?		
Bacterial balance Mutans Streptococci & Lactobacilli > 10^5?		

Adolescents & teens
Lifestyle disorders: diet, brushing



Elderly,
Reduced saliva flow, exposed root surface (critical pH up to 6.2) change type and frequency food intake

3. The practice mission statement

We are a dental team who
IDENTIFY & DIAGNOSE
individual patients risk of getting dental disease i.e. cavities, tooth loss etc, we then give
PREVENTION
advice to reduce this risk helping patients to pay less for future dental work and the last resort is that we have to
RESTORE
your teeth for function and aesthetics.

Bibliography:
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MINIMUM INTERVENTION mi™ Treatment Plan

By GC Europe, MI Advisory Board