PROSPECTM MI Paste™

PROfessionally SPECified Tooth Treatment
Delivering Bio-Available Calcium and Phosphate

002265 PROSPECTM MI Paste 10-Pack
Contains: 10 Tubes of MI Paste (40g each), two tubes of each flavor (melon, mint, strawberry, tutti frutti and vanilla).

900100 SALIVA-CHECK Package
Contains: 10 Individual Saliva-Check Kits, each kit includes one saliva buffering test strip, three saliva pH test strips, one pack of unflavored chewing wax (stimulant), one eyedropper pipette, one gauze pad and one 20mL saliva collection cup.


3 Fluoride effect on acid resistance capacity of CPP-ACP containing material. Kariya S, Sato T, Sakaguchi Y, Yoshi E. IADR, 82nd General Session, Honolulu 2004 – Abstract 2043

4 Anticariogenic complexes of amorphous calcium phosphate stabilized by casein phosphopeptides: a review. Reynolds EC. Spec Care Dentist 1998 Jan-Feb 18:1 8-16

5 The role of phosphopeptides in caries prevention. Reynolds EC. Dental perspectives 1999 3:6-7


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A breakthrough that has everyone smiling.

MI Paste

Clinical Brochure
A vision of caries management in the 21st century

Minimum Intervention or MI, is the modern 'medical' approach to the management of caries. Its principles are very simple:

- To identify and assess any potential caries risk factors early.
- To eliminate or minimize these risk factors in order to help prevent caries.
- If surgical intervention is required, as much as possible of the tooth structure is conserved, while bioactive materials are used to restore the tooth and protect against further damage.

To implement Minimal Intervention dentistry effectively, all three elements need to be integrated fully into your patients treatment plans.

A breakthrough in the science of remineralization

Restore Oral Wellness with RECALDENT™ (CPP-ACP)

Now, the mineral imbalance can be restored with RECALDENT™ (CPP-ACP). RECALDENT™ (CPP-ACP) is derived from milk protein, casein. For many years it has been known that milk has a tooth protective effect. Recently, research from the University of Melbourne, Australia has shown that this activity is due to a part of the casein protein called Casein Phosphopeptide (CPP) which carries calcium and phosphate ions in the form of Amorphous Calcium Phosphate (ACP). Calcium phosphate is normally insoluble at neutral pH, however the CPP keeps the calcium and phosphate in an amorphous, non-crystalline state. RECALDENT™ (CPP-ACP) is therefore an ideal delivery system for bio-available calcium and phosphate ions.

How RECALDENT™ (CPP-ACP) remineralizes enamel

RECALDENT™ (CPP-ACP) technology has been extensively researched at the University of Melbourne Dental School (Australia) since the 1980s. When RECALDENT™ (CPP-ACP) is added to the oral cavity, the ‘sticky’ CPP part of the CPP-ACP complex binds readily to the enamel, biofilm and soft tissue delivering the calcium and phosphate ions exactly where it is needed, when it is needed. Its incorporation into the salivary pellicle also seems to significantly reduce the adherence of certain plaque bacteria. The free calcium and phosphate ions then move out of the CPP, enter the enamel rods and forms the apatite crystals. This process is called remineralization.

Numerous studies have proven the effectiveness of RECALDENT™ (CPP-ACP) in preventing and reversing early caries lesions often seen as white spots. RECALDENT™ (CPP-ACP) is capable of occluding open dentinal tubules to eliminate dentinal hypersensitivity.

A mineral imbalance

Dental caries is an infectious disease which requires a susceptible host and the presence of cariogenic plaque bacteria that are sustained by a high sugar diet. If all three factors are present, the bacteria ferment the sugars producing acid which lowers the normally neutral pH of the oral environment. The acid then attacks the enamel which leaches out apatite forming calcium and phosphate ions causing demineralization. Over time, this leads to destruction of the enamel subsurface and the start of decay, often seen as white spots.

Demineralization can be a result of:
- Excessive acid-producing plaque bacteria due to poor oral hygiene.
- Bad dietary habits like excessive sodas and sports drinks.
- Medications.
- Xerostomia or conditions leading to reduced salivary flow.
- Stress, physical and psychological.

RECALDENT™ (CPP-ACP) and Fluoride

RECALDENT™ CPP-ACP has been shown in both animal and human in-situ studies to enhance the effects of fluoride. This is not surprising since fluoride requires a good source of calcium and phosphate for remineralization of tooth enamel with the more acid-resistant fluorapatite. RECALDENT™ (CPP-ACP) provides this in an amorphous, soluble form.
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**Saliva – Nature’s miracle in your mouth**

Saliva is nature’s primary defense system for the oral environment and is important for protecting teeth and soft tissues. Saliva flushes bacteria and food away from the teeth, helps buffer the acids and replenishes calcium, phosphate and fluoride ions which remineralizes the enamel. If the saliva is deficient, or there are too many acid-producing bacteria, the following can occur:

- Increased occlusal and incisal attrition
- Labial wear due to toothbrush abrasion
- Erosion of tooth surfaces (e.g. gastric reflux or acidic drinks)
- Increased caries risk
- When the pH of the mouth lowers (acidic) the dynamic balance between remineralization and demineralization moves to favor demineralization.

**Saliva Check™**

Saliva Check is an examination tool for educating the patient, to assist in preventive treatment planning and for initiating changes in the patient’s oral hygiene and dental treatment plan. Dental professionals should use saliva to:

- Diagnose clinical problems
- Monitor results
- Design an appropriate prevention/remineralization program

Patients with low salivary flow and/or low saliva pH should have a treatment program designed to include supplements with products containing RECALDENT™ (CPP-ACP) or fluoride. Supplementing poor saliva with fluoride is a useful strategy, but the effectiveness is diminished by a lack of available calcium and phosphate, the essential building blocks of enamel and dentin.
Prevent

Correcting mineral imbalance is a new preventive option made possible by the development of RECALDENT™ (CPP-ACP). A complex of Casein Phosphopeptite (CPP) and Amorphous Calcium Phosphate (ACP), RECALDENT™ CPP-ACP delivers supercharged calcium and phosphate ions to the enamel to form calcium phosphate crystals.1,4,5,6

MI Paste with RECALDENT™ (CPP-ACP) inside.

MI Paste™ is the first product for professional use to contain RECALDENT™ (CPP-ACP). MI Paste:

- Is a water-based, sugar-free crème which is applied to the tooth surface or oral cavity.
- Delivers RECALDENT™ (CPP-ACP), which binds to biofilms, plaque, bacteria, hydroxyapatite and surrounding soft tissue localizing bio-available calcium and phosphate ions.
- The nanoclusters of amorphous calcium phosphate in CPP-ACP release calcium and phosphate ions under low oral pH conditions in a unique soluble form (CaHPO3) which is then transported into the tooth structure and enables regeneration of enamel and dentin.
- Works quickly, within 3-5 minutes depending on the clinical situation.
- The flavoring helps stimulate saliva flow to enhance the effectiveness of the RECALDENT™ CPP-ACP.
- The longer the RECALDENT™ CPP-ACP is maintained in the mouth, the more effective is the result. MI Paste has substantial buffering capabilities, giving a sustained release of calcium and phosphate ions for over three hours.

The Science Behind MI Paste

The concentration of RECALDENT™ CPP-ACP is optimized in MI Paste. In a human in situ demineralization study, a CPP-ACP solution used twice daily produced a 51 ± 19% reduction in enamel mineral loss by frequent sugar-solution exposure. The twice daily use of CPP-ACP solution resulted in 144% and 160% increase in calcium and inorganic phosphate levels respectively in the inter-enamel plaque recovered from the removable intraoral appliance. These results suggested an anticariogenic mechanism for the CPP-ACP where the CPP stabilizes and localizes the ACP at the tooth surface thereby buffering plaque pH and depressing enamel demineralization and enhancing remineralization. Other in-vitro studies have shown that CPP-ACP solutions promote remineralization of enamel subsurface lesions.1
Clinical Applications

Demineralization and remineralization is a natural dynamic process. When an oral mineral imbalance occurs, the net result is a shift to demineralization. The acid challenge can be neutralized by MI Paste.

Preventive
- Reduce caries in high risk patients.
- Reduce erosions in patients with gastric reflux or other disorders.
- Reduce decalcification in orthodontic patients.

Repair of Enamel
- White spot caries and orthodontic decalcification.
- Fluorosis.
- Pre/post tooth whitening.

Desensitization
- Hypersensitivity from post whitening procedures.
- Sensitive dentin in dental erosion.
- Exposed root surface after professional tooth cleaning.

Others
- To provide a topical coating for patients suffering from erosion, caries and conditions arising from Xerostomia.

Post Whitening

Post Orthodontic

Post Prophylaxis

High Risk
**How Fast Does it Work?**

It depends on the individual situation and the clinical use for which MI Paste has been chosen. In simple after whitening procedure, relief should be possible within 2 minutes after application. When used before/after ultrasonic prophylaxis or root planning, a 5 minute application would probably be sufficient. White spot reversal can be expected after 2-3 months of twice daily at home application.

**How does it taste?**

Simply delicious! MI Paste is available in 5 exciting flavors- Mint, Strawberry, Melon, Tutti Frutti and Vanilla. The flavor has no bearing on the use or application of the product.

**Clinical Photos**

- [Image of teeth before whitening]
- [Image of teeth after 3 months]
- [Image of teeth after bracket removal at one month]
- [Image of teeth immediately after initial whitening appointment with heavy white staining on teeth still apparent]
- [Image of teeth two weeks after final whitening appointment and twice daily application of MI Paste]
Whether caries damage can be repaired or needs to be restored after the identification stage, the MI restoration process is a whole new approach as it aims to repair and protect at the same time. This has largely been made possible by the introduction of restoratives like Glass Ionomer Cements and Resin Modified Glass Ionomer Cements which have been continuously proven over time to have not only self-adhesive properties but also releases fluoride continuously to remineralize dentin and enamel. The result - a conservative approach to restorative dentistry where the healthy tooth structure can be left untouched.

A Vision of the Future

In the future, dentistry will be moving from the surgical to the medical MI approach. Within a few years, surgical restoration of caries may be the last course of treatment rather than the first. One day many dental practices may be designated ‘Minimum Intervention’ practices.