



# GC Tooth Mousse Portfolio

4TH EDITION





## THREE QUESTIONS YOU ARE PROBABLY ASKED ON A REGULAR BASIS ARE:

- “Why do I need this treatment?”
- “How much will it cost?”
- “When finished, how long will it last?”

The first two questions are relatively easy, but the third may require a well rehearsed and complicated response that you often feel uncomfortable with.

“Well, ahem ... it all depends on how well you brush your teeth, the condition of your saliva and the acidity of any accumulated plaque”, could be a reasonable reply. Unfortunately it doesn't give a specific answer to their question about longevity.

A different response could be: “If you are able to continue brushing properly, regularly remove all plaque and your saliva is healthy, then X years could be expected. However, we recommend you join our annual maintenance program where we regularly check your saliva, plaque accumulation and plaque acidity. This will give maximum longevity and allow us to introduce early preventive procedures if we detect any potential problems. The annual maintenance program will cost \$Y. Would you like to go ahead with it?”

- “How long should I use Tooth Mousse?”

This is another frequently asked question. Depending upon the clinical case and the reason for prescribing Tooth Mousse, your answer could be: “I would like you to use it every day and apply before sleeping. Then come back in X weeks so we can check your saliva or plaque levels and decide if you need to continue using it. There will be an additional charge for a saliva and or plaque test.”

Testing saliva and plaque and introducing an annual maintenance program are all good practice builders.



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## MOUSSE FOR STABILIZATION

Prof. Laurie Walsh and Dr David Roebuck, University of Queensland

GC Tooth Mousse can be useful for enhancing levels of calcium and phosphate in saliva, dental plaque and tooth structure. In so doing it can aid in arresting the progression of caries and can improve the substrate for adhesive dental restorations.

### THIS IS COLIN - 26 YEARS OLD

Colin is a young man who works as a rigger on large building projects. His lifestyle has a number of risk factors for dental disease, including dehydration from working outdoors in a hot climate, and a high daily intake of black cola soft drinks. Colin has recently become engaged and is seeking to improve his appearance as part of his preparations for the wedding. His maxillary incisors are broken down from caries, with tooth 21 previously having been root filled. Colin has recently given up smoking and has become more aware of oral health issues.

Saliva testing was used to motivate Colin to improve his lifestyle. Given the significant destruction of the incisors, it was important to conserve tooth structure when planning for their eventual restoration. Colin was provided with GC Tooth Mousse to use each night before bed, to aid in the arrest of the caries process, and to increase levels of mineral in the exposed dentine. There were ongoing concerns as to the extent of occupation-related dehydration, so

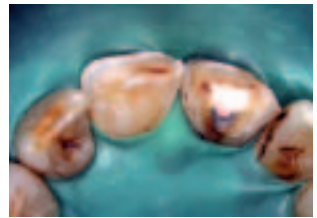
Colin was maintained on Tooth Mousse until all of his restorative care was completed. He reduced his intake

of black cola soft drinks by substituting water, and this lifestyle change improved his resting salivary parameters.

Some three weeks after commencing the stabilization routine, the teeth were prepared using minimal intervention principles, removing soft infected dentine but without following a pre-conceived outline form. Fuji IX<sup>GP</sup> was used to cover the gutta percha in tooth 21. The dentine was covered with resin-modified glass ionomer cement and this then overlaid with composite resin, to give a pleasing natural appearance.



Colin used GC Tooth Mousse each night before bed.

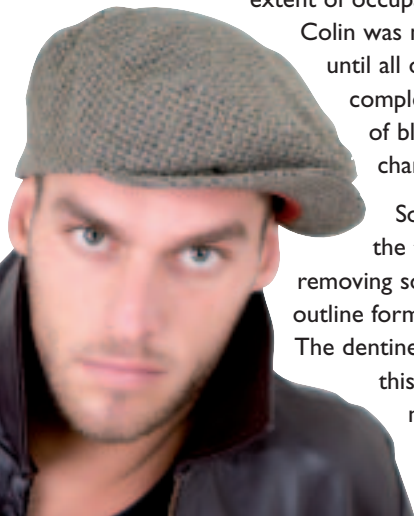


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Prof. Laurie Walsh





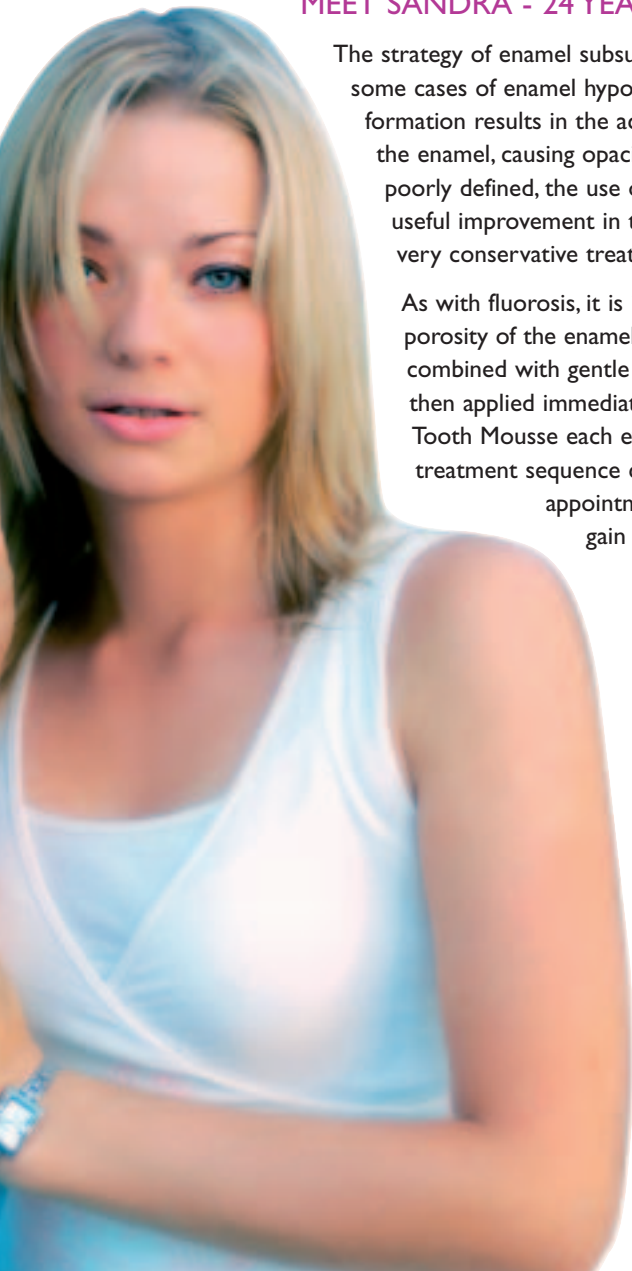
## MOUSSE FOR HYPOMINERALIZATION

Prof. Laurie Walsh, University of Queensland

### MEET SANDRA - 24 YEARS OLD

The strategy of enamel subsurface regeneration can be applied to some cases of enamel hypomineralization where impaired enamel formation results in the accumulation of water in voids within the enamel, causing opacity. In cases where the lesions are poorly defined, the use of GC Tooth Mousse can provide a useful improvement in the patient's appearance following a very conservative treatment approach.

As with fluorosis, it is important to maximize the microscopic porosity of the enamel surface overlying the defect, by etching combined with gentle microabrasion. GC Tooth Mousse is then applied immediately and the patient continues to apply Tooth Mousse each evening immediately before bed. The treatment sequence can be repeated several times (e.g. with appointments spaced several weeks apart) to gain a greater effect.





In this patient, there are enamel lesions caused by hypomineralization limited to the incisal third of the labial enamel of the two maxillary central incisors. The lesions are poorly demarcated, which is a positive sign as it suggests a shallow depth and thus a greater effect from the treatment.



A conventional 37% phosphoric acid gel is applied to the lesions and the surrounding normal enamel for one minute.



After surface conditioning, the surface enamel is more porous.



After four weeks of nightly application of GC Tooth Mousse, the visible appearance of the lesions has reduced.

*“My dentist explained that the white marks on my front teeth were due to a defect in the enamel when the teeth were originally formed.*

*These ugly marks started to disappear after using Tooth Mousse.”*



After six weeks the effect is even more pronounced.

Prof. Laurie Walsh





## MOUSSE FOR MORE HYPOMINERALIZATION

Prof. Laurie Walsh, University of Queensland

### THIS IS DEREK - 32 YEARS OLD

In cases of enamel developmental defects where the lesions are well demarcated, the visible benefit gained from a single treatment sequence of etching, microabrasion and GC Tooth Mousse will be less than in the case of poorly demarcated lesions. This is because well demarcated lesions tend to have greater depth, which limits the extent of the diffusion process. The difference between well demarcated and poorly demarcated lesions is seen in this patient, where trauma to the deciduous maxillary incisor teeth when the patient was an infant has led to defective mineralization of the labial surface of the permanent maxillary incisors. There is no defect on the surface, however, in this case.



## TREATMENT PROCEDURE

A conventional 37% phosphoric acid gel was applied to the lesions and the surrounding normal enamel for one minute, followed by a nightly application of Tooth Mousse that produced a significant change after ten weeks.



Prior to treatment the lesions can be seen near the incisal edges of the maxillary central incisor teeth. The ovoid shape of the lesion on 21 (the right incisor) is the shape of the root apex of the deciduous incisor which impacted upon the surface to cause the lesion when the patient was approximately 9-12 months of age.



Some ten weeks after treatment the lesions are less obvious.



These higher magnification views show the before and after situations. The lesion on the left incisor (11) has reduced considerably in both area and density. On the right incisor (21), the less demarcated outer part of the lesion is almost completely normal in appearance, whereas the well demarcated central portion has responded relatively little to the treatment.





## EROSION MOUSSE

Prof Laurie Walsh and Dr Anna Raymond, University of Queensland

In patients with gastric reflux disease, the extensive loss of tooth mineral and tooth structure presents a major challenge to successful treatment. GC Tooth Mousse is able to drive remineralization even under conditions of low (acidic) pH, which makes it very useful as both a preventive and therapeutic agent in patients with reflux disease.

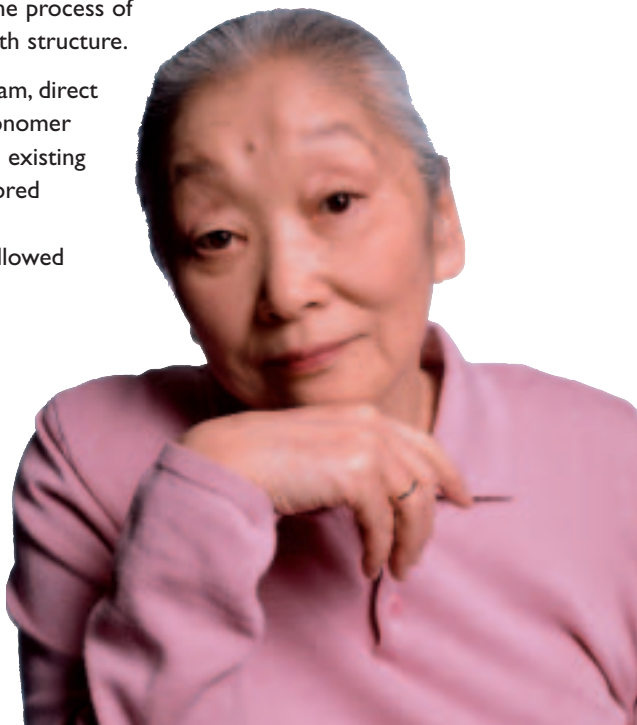
### THIS IS BETTY - 64 YEARS OLD

Betty presented with extensive non-carious loss of tooth structure desiring an improvement in her function and appearance. She had noted many teeth becoming worn, chipped and very sensitive over recent months. The erosive lesions showed the characteristic pattern of palatal destruction of the anterior teeth. Careful questioning revealed that Betty had suffered from gastric reflux for some years, although the condition had recently become worse because of her use of a non-steroidal anti-inflammatory drug for an arthritic condition.

The management approach taken was to seek medical intervention from Betty's general medical practitioner and to commence a home care program comprising GC Tooth Mousse applied each night, in combination with sodium bicarbonate mouthrinses after each meal and again after any episodes of reflux. This treatment quickly reduced the symptoms of sensitivity from the exposed dentine, and began the process of regaining mineral into the depleted tooth structure.

After 6 weeks on the home care program, direct buildups were undertaken using glass ionomer and composite resin, retaining all of the existing tooth structure. The canines were restored initially to establish the occlusal vertical dimension and the guidance scheme, followed by the remaining anterior and then posterior teeth.

The result of this treatment has been conservation of the existing tooth structure, with restoration of aesthetics and function. GC Tooth Mousse is an essential component for reversing the disease process and creating a sound foundation for future restorative work.







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Prof. Laurie Walsh

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## GERODONTIC MOUSSE

Prof. Laurie Walsh, University of Queensland

Elderly patients with salivary dysfunction (dry mouth) linked to their medical conditions or their medications can undergo a rapid increase in the risk of both coronal and root surface caries. By elevating levels of calcium in saliva and dental plaque, GC Tooth Mousse can reduce the harmful effects of plaque-derived acids and drive remineralization.

### THIS IS ANTONIO - 62 YEARS OLD



Antonio has type II diabetes mellitus, and at the initial presentation had active caries and untreated periodontitis. His diabetic condition was undiagnosed until recently, and was a major contributor to his impaired salivary flow rates.



After instituting a home care program to promote remineralization and a series of appointments for periodontal debridement and restorative work, the situation has improved. Daily use of GC Tooth Mousse, used in conjunction with a triclosan-releasing toothpaste (Colgate Total™) and flossing, is a useful protocol for Antonio's home care over the long term.



The primary root surface caries lesion on the buccal aspect of tooth 33 has hardened and undergone arrest. It is free of plaque and is not likely to breakdown in the future as it is now hypermineralized.

Prof. Laurie Walsh

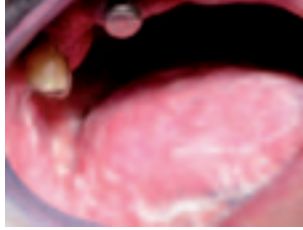
# DRY MOUTH MOUSSE

Prof. Laurie Walsh, University of Queensland

In patients with overdentures, the development of a low oxygen, low salivary access environment beneath the overdentures can lead to the rapid progression of caries in the supporting teeth.



Testing for resting salivary flow from the labial glands of the lower lip reveals no output after periods as long as five minutes.



The saliva which is present is highly viscous and has a low pH. Its frothy nature is readily apparent. This saliva has minimal lubricating properties and is unable to provide defence against dental caries.



Clarence has a maxillary partial chrome-cobalt denture, which was fabricated by a prosthodontist. This denture is retained in part by magnets fitted to his root-filled maxillary canine teeth, with assistance from the remaining maxillary second molar; the 17. It opposes a full lower denture which is implant-supported.



Protection of the root surface around the attachments on the canine teeth is a major goal.

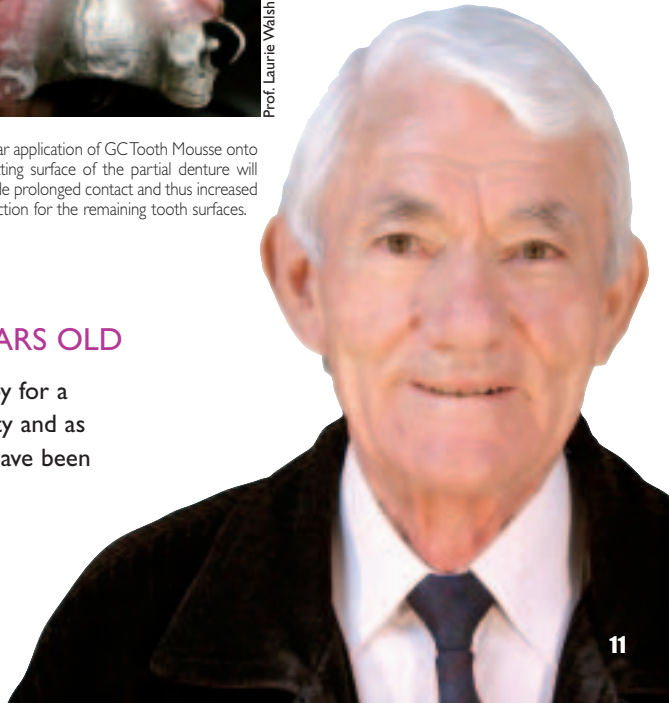


Regular application of GCTooth Mousse onto the fitting surface of the partial denture will provide prolonged contact and thus increased protection for the remaining tooth surfaces.

Prof. Laurie Walsh

## THIS IS CLARENCE - 75 YEARS OLD

Clarence has undergone radiotherapy for a malignancy in his posterior oral cavity and as a consequence his salivary outputs have been diminished to almost zero.





## MOUSSE FOR ROOT SURFACES

Prof. Laurie Walsh, University of Queensland

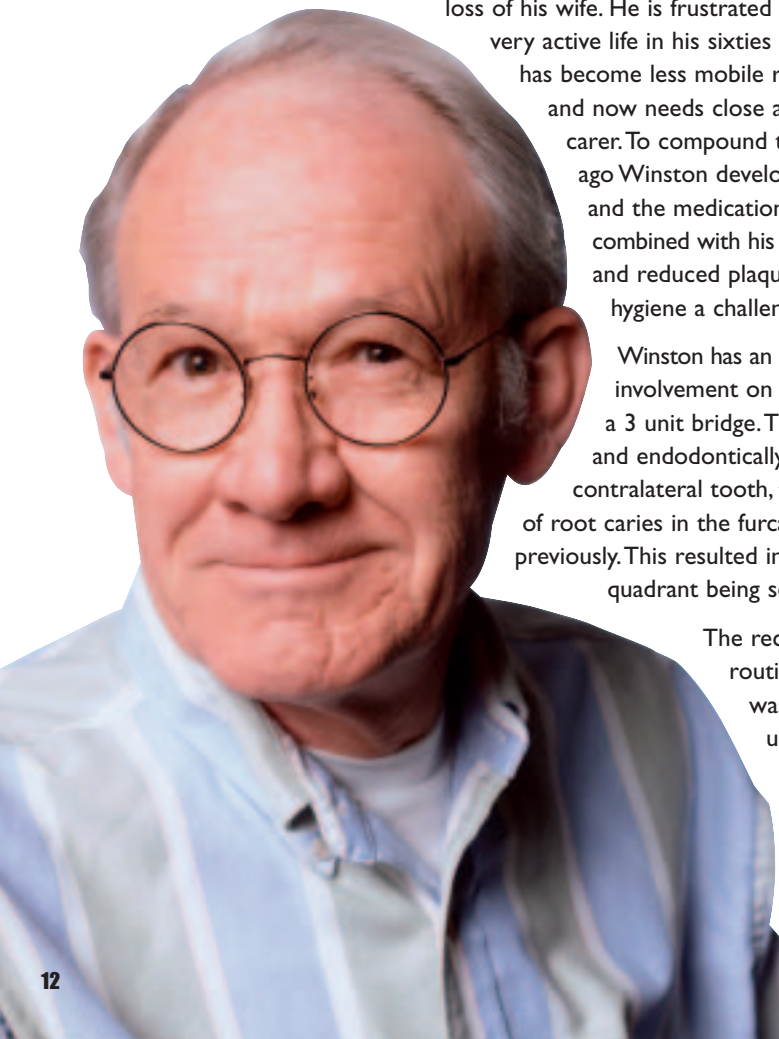
Furcation areas of periodontally compromised molar teeth are high risk sites for the development of root surface caries. This is a particular problem in elderly patients who have had extensive periodontal and restorative therapy, since pulpal involvement can occur readily when caries develops in this region.

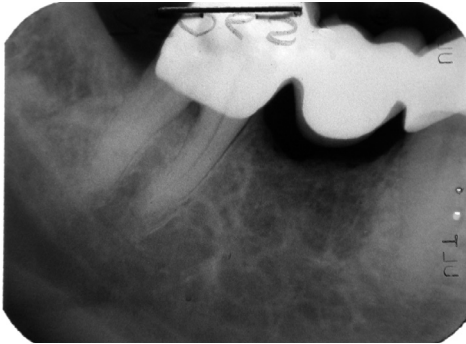
### THIS IS WINSTON - 78 YEARS OLD

Winston moved to a retirement village five years ago after the loss of his wife. He is frustrated because, after leading a very active life in his sixties and early seventies, he has become less mobile recently following a fall and now needs close attention from a medical carer. To compound the situation, some time ago Winston developed Parkinson's disease, and the medications used to control this, combined with his impaired manual dexterity and reduced plaque control, make oral hygiene a challenging task.

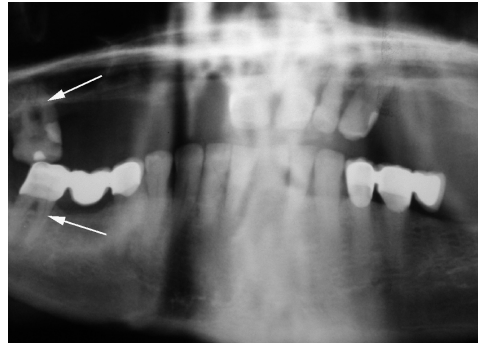
Winston has an advanced grade 2 furcation involvement on tooth 47, which supports a 3 unit bridge. The tooth is periodontally and endodontically sound, however its contralateral tooth, the 37, was lost because of root caries in the furcation some five years previously. This resulted in the bridge in the third quadrant being sectioned.

The recommended home care routine for the furcation area was an interproximal brush used by Winston's carer with chlorhexidine gel, followed by a generous application of GC Tooth Mousse to the furcation region each evening before bed.





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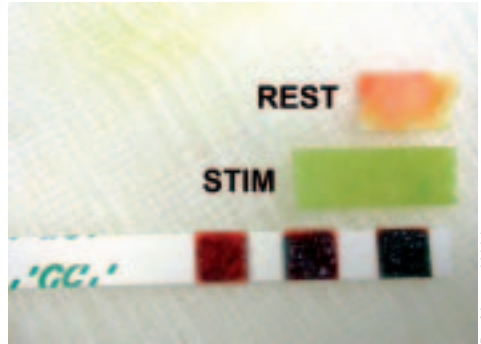


After two and a half years, the situation with 37 has remained stable. There is an identical problem in the opposing 17 tooth, which has a grade 3 (through-and-through) furcation involvement, that has been managed in the same way. The upper molar is critical for retention of a maxillary chrome-cobalt partial denture.

Additional treatment for periodontal debridement is undertaken three times per year – at this stage no additional problems have occurred.



This image of Winston at the initial appointment shows early areas of root surface caries on the mandibular anterior teeth. The central incisors were subsequently lost because of advanced attachment loss. A direct composite bridge was fabricated. (This can be seen on the OPG X-ray above). Given the guarded prognosis of the dentition, a conventional fixed bridge was contraindicated.



The initial saliva test results for Winston showed an acidic salivary pH at rest. However the stimulated salivary pH was at the lower end of the normal range as was the buffer capacity. The acidic oral conditions at rest will promote the development of an acid-tolerant (aciduric) oral flora and this is linked to his increased risk for root surface caries.

## HOME CARE PROCEDURE

The current home care routine for the furcation area is an interproximal brush used by Winston's carer with chlorhexidine gel, followed by a generous application of GC Tooth Mousse, especially to the furcation region, each evening before bed.





## MOUSSE FOR THE REVERSAL OF WHITE SPOT LESIONS

Prof. Laurie Walsh, University of Queensland

The ability of surface applications of CPP-ACP to regenerate subsurface mineral in experimentally-induced white spot caries lesions has been demonstrated in several clinical trials undertaken by the research group of Professor Eric Reynolds at the University of Melbourne. This case illustrates the same process applied to a patient who has extensive areas of decalcification (white spot enamel caries) which developed during an extended period of hospitalization. After discharge the patient established a high standard of oral hygiene and the lesions were arrested. The arrested white spot lesions will remain as a “scar” within the enamel, with trapped water in the subsurface porosities.

The intention of the treatment is to reverse the situation so that the enamel subsurface is regenerated fully, which will give the enamel a normal appearance. In this case the lesions have arrested, and the outermost layer of the enamel will have the pores plugged with mineral deposits from the saliva. These will be removed by etching and microabrasion to gain the porosity required for the penetration of ions from the Tooth Mousse.

In the case of active white spot lesions (white spot lesions beneath fermentative plaque), it is not necessary to treat the surface prior to applying Tooth Mousse because the outermost enamel is microscopically porous. (The demineralizing nature of plaque in such cases can be demonstrated to the patient using the GC Plaque Check +pH test).



RACHEL - 27 YEARS OLD  
IS A LOT HAPPIER THAN  
SHE USED TO BE.



At the first appointment, prior to treatment, the broad areas of opacity can be seen affecting all the teeth. The maxillary anterior teeth previously had composite resin veneers placed, and areas of decalcification can be seen at the cervical margins.



The situation after etching and microabrasion followed by 12 weeks of a daily application of Tooth Mousse shows a dramatic change in the appearance of the lesions.



Prof. Laurie Walsh

These higher magnification views show the before and after situations. There has been a reversal of the white spot lesions and the fully remineralized enamel is normal in appearance.

*The patient now has excellent oral hygiene although her salivary parameters are abnormally low as a consequence of her multiple medical conditions and medications. Her salivary profile was checked using the GC Saliva Check Buffer test.*

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