

# CONDITION AND PROGNOSIS REPORT

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(DOB \*\*\*\*\*)

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Examined on \*\*\*\*\*

by **PHILIP R. GREENE BDS FDSRCPS, CUEW, JP.**  
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REPORT PREPARED FOR

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Ref: \*\*\*\*\*

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### **Appendices:**

- Radiographic Images
- Clinical Photo Images
- Risk Analysis Chart
- Periodontal Data Chart

## 1. INTRODUCTION

1. This report is prepared at the request of \*\*\*\*\*, Solicitors, on their client, \*\*\*\*\* (**The Claimant**), in connection with her claim in negligence against her former general dental practitioner, \*\*\*\*\*, (**The Defendant**), practising at\*\*\*\*\*.
2. My credentials for providing this report are summarised in my curriculum vitae on page 12 of this report.
3. It is alleged that Mr \*\*\*\*\* failed to diagnose, treat, or monitor the Claimant's periodontal disease, or to refer her for specialist advice and that, as a result, she has lost some of the bone attachment for her teeth, some of which have been lost. It is alleged that she will lose more teeth in the future.
4. I am asked to address the following issues in this report:
  - a) The current condition and prognosis of the Claimant's teeth, paying attention to her experiences and how they have affected her everyday life;
  - b) Which teeth have already been extracted or lost, and which teeth are likely to be lost in the future and at what time;
  - c) The treatment required now to save as many teeth as possible;
  - d) Treatment options available to the Claimant to return her dentition, as far as is possible, to an acceptable standard, with an indication of the treatment of choice;
  - e) The likely costs of all the treatment options available to the Claimant including any repeat treatment and cyclical restorations;
  - f) The extent to which she would have required such treatment in any event, even if breach of duty had not occurred.
  - g) The nature of the damage which has been sustained and how this may have resulted in pain, discomfort and inconvenience for the Claimant.
  - h) Details of the treatment which is required as a result of the failing in the standard of care provided by the Defendant.

## **2. CHRONOLOGY**

The Claimant first attended the Defendant on 20<sup>th</sup> December 1988 at the age of 38 years. She attended on a regular basis between 1988 and 2005, during which time her periodontal condition deteriorated, to the point where most of her teeth had already been lost and the prognosis of the remaining teeth is poor.

## **3. EXAMINATION**

I examined the Claimant for the purposes of this report on 23<sup>rd</sup> September 2008. She told me the sequence of events that had led to this claim as detailed above.

### **Current problems**

1. Mrs \*\*\*\*\* is extremely unhappy with her partial upper and lower dentures. They make her feel sick and she has difficulty when engaging in exercise activities such as swimming and running. She has great difficulty in chewing with the dentures and she is only able to eat soft food. Mrs \*\*\*\*\* has been wearing dentures for three years and Mrs \*\*\*\*\* believes that her personal difficulties related to her teeth and dentures were a factor in leading to her separation from her partner.
2. Discomfort beneath the denture particularly in the UL3 area.
3. Loose molar in the left maxilla.

### **Relevant medical history**

1. Mrs \*\*\*\*\* is taking Fluoxetine a commonly used anti-depressant. She told me that this has been due to her loss of self-confidence due to loss of teeth. She has used this medicine intermittently for five years.
2. Mrs \*\*\*\*\* has never been a smoker and takes a low-level of alcohol, less than 6 units per week.

### **Extra oral examination**

1. Nothing abnormal detected.

## **Intraoral examination**

### **Soft tissues**

Nothing abnormal detected. The lower edentulous ridges are narrow.

### **Teeth**

The following summary of the Claimant's dental condition is based on clinical, radiographic and periodontal examination. The periodontal data chart can be found as an appendix to this report. Estimates of attachment loss for the teeth are made on the basis of radiographic assessment and can only be approximate since there is no scientifically accurate way of measuring attachment loss.

### **Clinical Parameters used:**

#### **Furcation involvement**

Furcation involvement means that there is loss of bone between the roots of the teeth, classified as follows:

Level 1: loss of bone up to a third of the width of the furcation area.

Level 2: loss of bone up to two thirds of the width of the furcation area.

Level 3: loss of bone involving the whole furcation area.

Level 4: the furcation area is visible above the level of the gum.

#### **Tooth mobility**

There is normally no detectable mobility of a tooth in its socket.

Abnormal tooth mobility (hypermobility) is scored as follows:

Level 1 is movement of 0-1mm.

Level 2 is movement of 1-2mm.

Level 3 is movement of the tooth more than 2mm, or in more than one direction or apical depressibility.

## **Teeth Present**

At the time of examination the following teeth were present:

UR321 : UL1 347

LR3 : LL34

## **Notes:**

1. The missing upper teeth are replaced with a partial upper acrylic removable denture and the missing lower teeth by a partial lower cobalt-chromium alloy removable partial denture.

## **Gingival Recession**

1. There is generalised gingival recession ranging from 1.0mm to 7.0mm in extent.

## **Periodontal Pocketing**

1. I found 7 periodontal pockets out of a possible 60 sites, that is 12% of possible sites with probing depths deeper than normal.

## **Bleeding on Probing**

1. I found 11 sites bleeding on probing, giving a bleeding index of 18%.  
Bleeding on probing, usually accepted as a measure of inflammation, was present on UR321, UL2, LR3 and LL34, ie almost all of the remaining teeth had some degree of bleeding on probing.

## **Tooth Hypermobility**

1. Teeth with mobility level 1: UR21, UL134, LL3
2. Teeth with mobility level 2: LR4
3. Teeth with mobility level 3: UL7, LL4
4. UR3 was not mobile.

## **Plaque control**

1. Mrs \*\*\*\*\* told me that she was using a manual toothbrush 2-3 times daily, and also one size of interdental brush, also 2-3 times daily. She also uses a chlorhexidine mouth rinse and chlorhexidine gel. Nevertheless, I would classify her plaque control at the time of examination as **fair-poor**. Further treatment has been provided since that time and I am awaiting updated dental records to assess the Claimant's current level of oral hygiene.

### **Occlusion**

1. Mrs \*\*\*\*\* has a class 2 division 2 occlusal relationship, with a deep overbite, and retroclined incisors. There was no posterior occlusal support.
2. There were no symptoms of temporomandibular joint dysfunction.

### **Radiographic findings**

1. I took eight digital periapical radiographs and a series of clinical digital photographs. The radiographs, and some of the clinical images are attached as appendices to this report.
2. The radiographs show generalised extensive loss of periodontal attachment with both horizontal and vertical osseous defects. There was overall loss of periodontal attachment to the extent of 60-70%, with the UR21 and UL7 particularly badly affected.
3. UL7 has furcation involvement.
4. Both UR2 and UL4 have periapical radiolucency indicating endodontic involvement.
5. LL4 has gross widening of the periodontal ligament space.
6. LR4 has a circumferential osseous defect and mesial attachment loss greater than 50%.
7. The UR21 and UL14 and LL4 are already heavily restored with crowns.

### **4. DIAGNOSIS**

**Advanced chronic periodontitis.**

### **5. PROGNOSIS**

1. Assessment of prognosis is based on a variety of factors all of which are taken into consideration in assessing the likely longevity of any given tooth. At the present time there is no scientifically accurate way of measuring or determining the prognosis of an individual tooth. The most important dental factors are the degree of inflammation, tooth type, tooth mobility, and furcation involvements. Other environmental factors, such as smoking, diabetes and the patient's compliance with periodontal maintenance treatment will also influence outcomes.
2. In assessing prognosis in this case I will rely on published literature and my experience gathered over thirty-five years of general dental and periodontal practice.
3. A series of studies was published in 1991 and 1996 in the Journal of Periodontology which related the survival of 2509 teeth in 100 consecutive treated periodontal patients under maintenance care with the same clinician to the initially assessed prognosis. All the patients were under maintenance regimens of 2-3 month intervals. The prognosis was assessed by the clinician using the commonly used criteria. Individual tooth factors included, among others, the degree and nature of attachment loss, furcation involvement, probing depth, tooth mobility, caries, pulp involvement, tooth position and occlusion. Overall prognostic factors included, among others, the patient's age, medical status, individual tooth prognosis, rate of disease progression, oral habits and compulsions.
4. A tooth was considered to have a poor prognosis if it had more than 50% attachment loss, and/or Class II furcation involvement (bone loss 1/3 – 2/3 of the furcation width) or Class II mobility.
5. A key finding in this study was that, after ten years 60% of teeth classified as poor or hopeless had been lost. Multi-rooted teeth were more likely to have been lost than single rooted teeth with the same initial prognosis.

*Ref: Prognosis Versus Actual Outcome. II The Effectiveness of Clinical Parameters in Developing an Accurate Prognosis. Maguire MK, & Nunn ME, J Periodontol, 1996 Vol 67 No 7*

*Ref: Prognosis Versus Actual Outcome. III The Effectiveness of Clinical Parameters in Accurately Predicting Tooth Survival. Maguire MK, & Nunn ME, J Periodontol, 1996 Vol 67 No 7*

## **Risk Analysis**

A risk analysis method has been published by two eminent Professors of Periodontology in order to assess the degree of risk of further tooth loss in patients with known susceptibility to periodontal disease. Their data is presented in a risk analysis diagram, however I have used a bar-chart format to illustrate the degree of risk in this case. The risk analysis uses six parameters to determine the risk of future periodontal attachment loss:

- the percentage of sites which bleed on probing
- the number of periodontal pockets
- tooth loss experienced
- age-related bone loss
- systemic and general risks
- smoking

This data is presented as an appendix to this report. Using this method of analysis the Claimant's risk of further attachment loss is **HIGH**.

## **6. OPINION REGARDING TREATMENT OPTIONS**

1. In view of the patient's proven susceptibility to periodontal breakdown, **supportive periodontal therapy in a specialist periodontal environment** is required to maintain the remaining teeth in periodontal health for the remainder of the patient's life **if Ms \*\*\*\*\* decides to keep her existing teeth for as long as possible**. This will involve treatment by a suitably experienced dental hygienist at least three-monthly and re-examination by a specialist periodontist at least six monthly. I would expect this to incur costs in the region of **£600 per year** at current private rates.

2. In my view, based on my risk assessment and the degree of attachment loss, together with the foregoing information, on the balance of probabilities, all of the remaining teeth will be lost within the next 5 years. I would therefore recommend the elective removal of teeth in a staged manner and replacement with implant supported prosthesis in both the maxilla and the mandible.
  
3. The maxillary sinuses on both sides of the maxilla are too large to allow the placement of implants and therefore bilateral 'sinus-lift' procedures will be required to augment the bone. In this procedure, a window is made in the lateral wall of the maxilla, on each side, and this window is collapsed inwards and upwards, creating a space into which bone-forming materials can be placed to fill the space. After a six-month healing period, implants can be placed in the newly formed bone.
  
4. In view of the extensive loss of attachment for the Claimant's anterior teeth, bone augmentation may also be needed in this region also. I would recommend computerised **cone-beam scanning of both maxilla and mandible** to fully ascertain the bone volume available into which implants can be placed. The sequence of treatment would be as follows:
  - i. Cone-beam scanning and analysis of data
  - ii. Removal of the lower remaining teeth,
  - iii. Placement of implants in the anterior part of the mandible eventually to support a fixed lower restoration supported by 4 or 5 implants placed in the anterior mandible,
  - iv. Bilateral maxillary sinus lift procedure,
  - v. Removal of remaining upper teeth and construction of a new immediate complete upper denture,
  - vi. Restoration of the lower implants,
  - vii. Placement of 8 implants in the maxilla and subsequent restoration with metal-ceramic bridgework.

## **7. ESTIMATED COSTS OF TREATMENT**

**In GBP** Based on current private practice rates.

i.	Periodontal Therapy in a specialist environment <i>Per anum (until teeth are lost) ...</i>	...	...	...	600
ii.	Cone-beam scanning and analysis of data	...	...	...	600
iii.	Removal of the lower remaining teeth	...	...	...	350
iv.	Placement of implants in the anterior part of the mandible eventually to support a fixed lower restoration supported by 5 implants placed in the anterior mandible	...	...	...	3,500
v.	Bilateral maxillary sinus lift procedures	...	...	...	2,000
vi.	Removal of remaining upper teeth and construction of a new immediate complete upper denture	...	...	...	750
vii.	Restoration of the lower implants	...	...	...	9,000
viii.	Placement of 8 implants in the maxilla and subsequent restoration with metal-ceramic bridgework.	...	...	...	20,000
ix.	<i>Replacement of Mandibular Superstructure at ten year intervals</i>	...	...	...	6,000
x.	<i>Replacement of Maxillary Superstructure at ten year intervals</i>	...	...	...	8,000

## Philip R. Greene BDS, FDSRCPS, CUEW, JP.

I qualified from the University of Liverpool in 1971 and, after a post as a House Officer in the Liverpool Dental Hospital, began work in General Dental Practice. I was awarded the Fellowship in Dental Surgery from the Royal College of Surgeons of Glasgow in 1980. I was accepted on the General Dental Council's Specialist List in Periodontics when it was established in 1998.

From 1972 I worked in both NHS and Private General practice and, since 1981, have worked in Specialist Periodontal Practice. I have taught in the Department of Restorative Dentistry at the Manchester Dental School and regularly repeat my "*Effective Periodontics*" practical seminar programme for the Department of Postgraduate Dentistry at the University of Manchester.

I have published many papers and articles on Periodontics and related subjects and my video film, "*Initial Periodontal Therapy*", was awarded the *Diplome d'Honneur* at the 1991 International Dental Film and Video Festival in Paris. My paper "*Non-Surgical Periodontal Therapy - Essential and Adjunctive Methods*" was published in the British Dental Journal in July 1995 and I presented a paper on subgingival antibiotic gel therapy at the Annual Meeting of the American Academy of Periodontology in September 1995.

I was the founding Chairman of the Dental Practitioners Section of the British Society of Periodontology and currently serve on the Education Committee of that Society. I am also an International Member of the American Academy of Periodontology and was a founding member of the Expert Witness Institute. I have been providing expert reports on a regular basis for over ten years.

**I have been awarded the Certificate of Expert Witness Accreditation by the Cardiff University Law School**

In November 2007 I was appointed to the Bury Magistrates Bench as a Justice of the Peace.

## **GLOSSARY OF DENTAL TECHNICAL TERMS**

### **bridge**

a replacement tooth fixed to adjacent teeth by adhesion or restorations of the adjacent teeth

### **buccal**

the side of the teeth nearest to the cheek

### **caries**

dental decay

### **crepitus**

rough grinding sound; suggests some obstruction to smooth movement of the joint.

### **crown**

the part of the tooth which is present in the mouth

### **distal**

the tooth surface nearest the back of the mouth

### **fremitus**

discernible movement of the teeth when they bite together

### **furcations**

the spaces between the roots of the premolars and molars which have more than one root

### **gingival recession (receding gums)**

migration of the gum margin away from the dental enamel margin exposing the root surface which should normally be covered.

### **gingivitis**

inflammation of the gum margins

### **incisors**

front teeth

### **lingual**

the side of the teeth nearest to the tongue

### **maxilla**

the upper jaw

### **mesial**

the tooth surface nearest to the centre

**mobile**

loose

**occlusion**

the way in which the teeth bite together

**periapical**

the area surrounding the tip of the tooth remote from the mouth

**periodontitis**

a destructive inflammatory condition of the gums and supporting bone which results in gradual loss of the bone which supports the teeth; caused by dental plaque, aggravated by various other factors, and prevented by adequate plaque removal before the disease becomes established

**periodontal pocket**

gap between the gum and the tooth more than 3mm deep caused by loss of attachment between the gum, the bone and the tooth

**root**

the part of the tooth which is anchored in the bone

**root canal therapy**

disinfection and sealing of the root canals inside a tooth

**temporo-mandibular joints**

the joints between the upper and lower jaws, situated just in front of the ears

**tuberosity**

a small bony protruberance behind the last upper molar

**paraesthesia**

alteration in sensibility of a nerve

**splinting**

fixing two teeth or bone fragments together to restrict movement and promote healing

**supra-erupted**

grown out of position due to the absence of an opposing tooth

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### **Expert's Declaration**

1. I understand that my overriding duty is to assist the court in matters within my expertise and that this duty overrides any obligation to those instructing me or their clients. I confirm that I have complied with that duty and will continue to do so. I am aware of the requirements set out in Part 35 of the Civil Procedure Rules and the accompanying Practice Direction, the Protocol for the Instruction of Experts to give Evidence in Civil Claims and the Practice Direction for Pre-action Conduct.
2. I have set out in my report what I understand from those instructing me to be the questions in respect of which my opinion as an expert are required.
3. I have done my best, in preparing this report, to be accurate and complete. I have mentioned all matters that I regard as relevant to the opinions I have expressed. All of the matters on which I have expressed an opinion lie within my field of expertise
4. I have drawn to the attention of the court all matters of which I am aware, which might adversely affect my opinion.
5. Wherever I have no personal knowledge, I have indicated the source of factual information.
6. I have not included anything in this report that has been suggested to me by anyone, including the lawyers instructing me, without forming my own independent view of the matter.
7. Where, in my view, there is a range of reasonable opinion, I have indicated the extent of that range in the report.
8. At the time of signing the report I consider it to be complete and accurate. I will notify those instructing me if, for any reason, I subsequently consider that the report requires any correction or qualification.
9. I understand this report will be the evidence that I will give under oath, subject to any correction or qualification I may make before swearing to its veracity.
10. I have attached to this report a statement setting out the substance of all facts and instructions given to me that are material to the opinions expressed in this report or upon which those opinions are based.

**I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer.**

.....  
Philip R. Greene, BDS, FDSRCPS CUEW, JP

.....  
Date