

## Having a dental cone beam CBCT

### **Cone Beam CT Scan Consent**

We ask that you read, consider and sign form this prior to commencing your treatment. Please ask your dentist for clarification on any issues that you may have about the information presented in this document.

A CBCT scan, also known as Cone Beam Computerised Tomography, is an x-ray technique that produces 3D images of your skull. CBCT allows the visualisation of internal bony structures in cross section rather than as overlapping images as typically produced by conventional x-ray techniques. CBCT scans are primarily used to visualise bony structures, such as teeth and jaws, not soft tissues such as your tongue or gums.

This leaflet will answer some of your questions about having a dental cone beam computerized tomography (CT) scan. It explains the benefits, risks and alternatives, as well as what you can expect when you come to our practice. If you have any questions, please speak to our team caring for you.

### **What is a dental cone-beam CT scan?**

A dental cone beam (CB) CT scanner uses X-rays and computer-processed X-ray information to produce 3D cross-sectional images of the jaws and teeth. It is a smaller, faster, and safer version of the regular CT scanner. By using a cone-shaped X-ray beam, the radiation dosage is lower, and the time needed for scanning is reduced. The machine moves around your head in a circular motion, like the panoramic dental radiography unit which is commonly used in dental surgeries and hospitals, which you may have already experienced.

### **During the dental cone-beam CT (CBCT)**

You will be seated in the CBCT machine. Your head will be carefully positioned, and you will be asked to keep absolutely still while the scan is taken. We will ask you not to swallow, talk or move your jaw during the exposure. The positioning takes a few minutes, but each scan takes less than a minute to perform. You might need more than one scan depending on the reason for your examination. The whole procedure should not take more than 30 minutes.

### **Advantages of a CBCT Scan over conventional x-rays:**

A conventional x-ray of your mouth limits your dentist to a two-dimensional or 2D visualisation. Diagnosis and treatment planning can require a more complete understanding of complex three-dimensional or 3D anatomy. CBCT examinations provide a wealth of 3D information which may be used when:

- Planning for dental implants
- Surgical extractions
- Maxillofacial surgery
- Advanced dental restorative procedures

### **Benefits of CBCT scans include:**

- Higher accuracy when planning implant placement surgery
- Greater chance for diagnosing conditions such as vertical root fractures that can be missed on conventional x-ray films
- Greater chance of providing images and information which may result in a patient avoiding unnecessary dental treatment
- Better diagnosis of third molar (wisdom teeth) positioning in proximity to vital structures such as nerves and blood vessels prior to removal
- The CBCT scan enhances your dentist's ability to see what needs to be done before treatment is started.

### **What are the risks?**

CBCT scans are low-dose examinations and give an X-ray dose to the patient that is normally considerably less than a medical CT scan. A normal CT scan of the jaws at our practice gives a radiation dose equivalent to about 63-154 days of background radiation (the X-radiation constantly present in the environment). A CBCT scan of the jaws would be comparable to approximately 6-30 days of normal background radiation. So a CBCT scan of the jaws will give less than one tenth of the dose of a conventional CT scan of the same area.

As with any X-ray examination, please tell our team if you might be pregnant.

### **Examples of different types of of X-ray examination/scan and risks**

- Small Dental X-ray
- Typical equivalent background radiation: 1-2days
- Number of people who may be affected: Fewer than 1 in 1,000,000
- Risk level: Negligible
- OPG X-ray
- Typical equivalent background radiation: 1-2 days
- Number of people who may be affected: Fewer than 1 in 1,000,000
- Risk level: Negligible
- Dental cone beam CT
- Typical equivalent background radiation: 1-2 months
- Number of people who may be affected: Fewer than 1 in 10,000
- Risk level: Very low
- CT scan of jaws
- Typical equivalent background radiation: 4-6 months
- Number of people who may be affected: Fewer than 1 in 10,000
- Risk level: Very low

### **Examples of different natural risks**

- UK average annual radiation dose
- Number of people who may be affected: Fewer than 1 in 10,000
- Risk level: Very low
- Hit by lightning

- Number of people who may be affected: Fewer than 1 in 1,000,000
- Risk level: Negligible
- Transatlantic flight
- Number of people who may be affected: Fewer than 1 in 100,000
- Risk level: Minimal
- Accident on the road
- Number of people who may be affected: Fewer than 1 in 1000
- Risk level: Low
- All natural causes (age 40)
- Number of people who may be affected: Fewer than 1 in 100
- Risk level: Moderate

### **What are the other options?**

Another alternative is not to have the examination at all. Without this examination it might not be possible using traditional dental X-ray pictures to assess the bone accurately enough to allow your treatment to be performed safely.

### **Pregnancy**

Women who are pregnant should not undergo a CBCT scan due to the potential danger to the foetus. Please tell the dentist if you are pregnant or planning to become pregnant.

### **How you can prepare for dental CBCT**

Before your CBCT you will be asked to remove glasses, dentures, hearing aids, earrings, tongue and nose studs, necklaces, hair clips and any other metal accessories that may affect the scan. This is not an examination that requires any injections or special preparations.

### **Preface photographic scanning**

A photographic scan of the face may sometimes be done with your CBCT scan. This will only be performed after discussion with you, and with your consent. It is done in the CBCT machine with the lights dimmed in the room. The machine gives off flashing lights during this type of scan. You will be asked to stand very still and keep your eyes open during this photographic scan. This part of the examination does not use X-rays.

### **Will you feel any pain?**

This procedure is not painful, but you will need to remain still for the duration of the scan. If you are claustrophobic, please mention this to your treating clinician so that they can offer you appropriate support and advice.

### **After your CBCT scan**

After the examination you will be able to go home straight away.

Your treating clinician will review and assess your x-ray and discuss the outcome.

### **What you need to do after you go home**

No special aftercare is necessary. You will be able to eat, drink and carry on all your normal activities.

### **What you should do if you have a problem**

In the unlikely event that you experience any problems after this examination, you can contact the practice (details below). Outside these hours, if you are worried, you should go to your nearest Emergency Department (A&E).

### **Follow-up appointments**

You do not usually have a follow-up appointment in our practice. Normally you will have a follow-up appointment with whoever referred you to us unless you are a patient of the clinic, therefore we will advise you of the next steps.

### **Consent**

- I consent that my referring dentist has already discussed with you why you need a CBCT scan,
- I agree that an external body might be approached for more comprehensive reporting if required,
- I agree that this leaflet helped me to understand the examination and any associated benefits, risks and alternatives,
- I consent to the transfer the clinical info and data to my referring dentist and to other clinicians, if required, AND
- I accept the privacy policy of the practice.
- I acknowledge that I have read and understand the above and I have discussed this form with the treating clinician and have had the opportunity to ask questions. I consent to electrocautery treatment

If you would like to read our consent policy, please tell a member of staff. If you would like more information about our consent process, please speak to a member of staff caring for you. For advice, support or to raise a concern, contact us on