

CBCT Scan Explained

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This leaflet explains what a Dental Cone Beam CT (CBCT) scan is, how it works, and when you may need it. It also outlines the benefits and risks of using CBCT and what you can expect during the procedure. Importantly, it tells you what you will need to plan for your care after the scan. It has been written by patients, patients' representatives, and dental professionals, working together.

What is a Dental Cone Beam CT Scan?

A cone beam CT scanner uses X-rays and a computer to produce 3D cross-sectional images of the jaws and teeth. It is a compact, faster, and safer version of the regular CT scanner. Through the use of a cone-shaped X-ray beam, the size of the scanner, radiation dosage, and time needed for scanning are all much reduced. The machine moves around your head in a circular motion, similar to the panoramic dental radiography unit commonly used in dental surgeries and hospitals.

Why have you been referred for a CBCT?

Dental cone beam CT scans are used to provide a more detailed image of your jaws and teeth. The image is then used to create your treatment plan. There are many reasons why a CBCT scan may be required, and your Consultant will explain the individual reasons why it has been identified as necessary.

When it has been identified that a CBCT scan may be appropriate, you will be referred for an assessment with a consultant, who will determine if it is suitable for you to have a CBCT scan. If so, you will be referred to have the CBCT scan taken at a designated facility. If at this assessment it is deemed not to be suitable, the reasons for this will be explained to you.

What can I expect during the procedure?

Having a CBCT scan is very similar to having an x-ray. 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. Your head will be carefully positioned and lined up with the machine. You will be asked to keep absolutely still while the scan is taken. We will ask you not to talk or move your jaw during the exposure. The positioning can take a few minutes, but the 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.

There is no pain associated with this procedure, but you will need to remain still. If you are claustrophobic, please mention this to the radiographer so they can offer you support and advice.

What are the benefits of CBCT?

The scan will give us detailed information that cannot be obtained from normal x-rays. For example, if you are being considered for dental implants or other special procedures, it allows us to assess the exact shape of the bone and plan your treatment precisely. The radiation dose of the CBCT is much lower than a standard CT scan or regular x-ray.

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What are the risks?

The risks associated with a CBCT scan are much lower than a normal CT scan, which 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. Therefore, 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 the radiographer if you might be pregnant.

Are there other options?

Yes, a medical CT is the alternative, but this delivers a greater radiation dose. Another alternative is not to have the CBCT scan; however, it might not be possible using traditional dental x-ray pictures to gain a detailed or accurate enough image required to complete further treatment. If you have any concerns or queries regarding the CBCT scan, please discuss them with the Consultant.

Do I need to prepare for the dental CBCT?

Before your CBCT, you will be asked to remove glasses, dentures, hearing aids, earrings, tongue 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 beforehand. If you are having the scan for dental implant planning, you may be asked by your Consultant to bring a localisation stent with you. This is a special 'plate' which you will wear rather like a denture, containing markers to guide our x-ray examination. You will only need to wear this during the scan.

What happens after I have had the CBCT scan?

After the examination, you will be able to go home straight away. The CBCT will be reported by consultants. No special aftercare is necessary; you will be able to eat and drink and carry on all your normal activities.

Will I have a follow-up appointment?

A follow up will be arranged to discuss the results of the CBCT scan.