



**ARMANDO
LOPES** DDS, MSc

DIRETOR IMPLANTOLOGY, ORAL SURGERY
& PERIODONTOLOGY MALO CLINIC



DENTAL MEDICINE

NAVIGATION SURGERY

What is a dental implant computer-navigation surgery?

Dental implant placement surgery can now be done through the help of a technology that enables us to previously plan in a software the intended position of the implants. Thus, we are then able to know in real time whether we are in that planned position in the patient's mouth. Using a computer Tomography, a 3D image of the patient's mouth is created in that software. In this virtual environment, the doctor decides the ideal position for the implants taking into account the correct position of the teeth. The System works through a machine (X-Guide) that operates like a GPS that will guide and help the doctor to place the implants in the intended position, planned in advance in the software.

How does the system work?

The X-Guide machine emits ultraviolet light into the operative field, a light that is picked up and reflected by receptors that are in the patient's mouth. The reflected light is then captured in real time by two cameras that are coupled to the machine, telling the doctor what his position is at that moment compared to the virtual planning.

What are the advantages of this technology?

Through this navigated surgery the dentist who is placing the implants can:

1. be even **more precise** because the machine guides him exactly to where the implant has to be placed;
2. be even **less invasive** because most of the times it is not even necessary to make incisions or flaps to see the bone, since information about the bone and the positioning of the implant are planned in advance in the software;
3. be even **faster** in planning and placing the implants because it is possible to do everything in a single session, unlike other techniques (such as plastic surgical guides, which take several days to complete).

In which cases can it be used?

This technology can be applied in all situations, whether the patient is missing one, several or all his teeth.