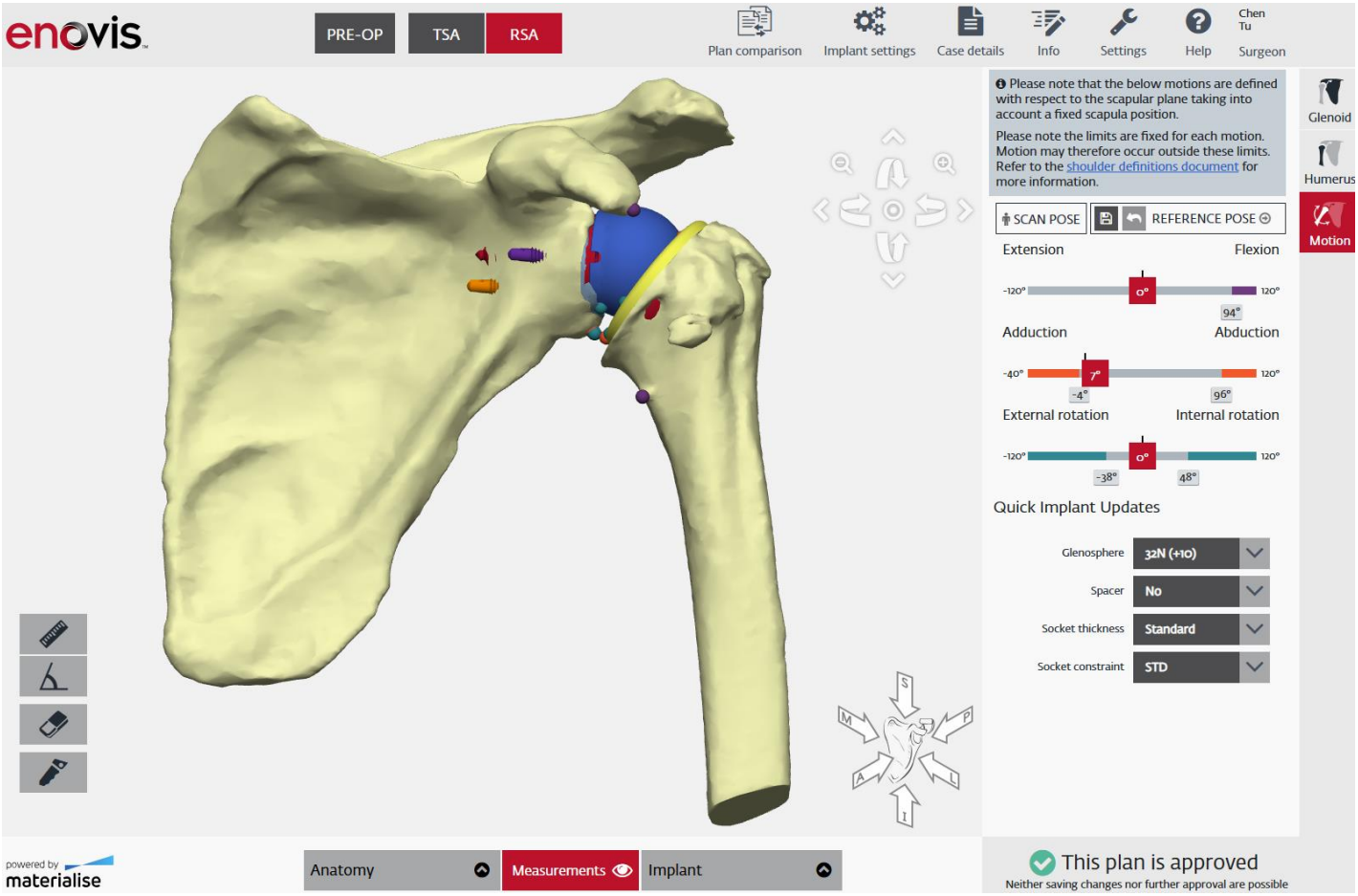
WAKEFIELD
ORTHOPAEDIC CLINIC

Patient-Specific Instrumentation (PSI)

This handout explains how Patient-Specific Instrumentation (PSI) is used in shoulder replacement surgery by Dr Chen Tu.



What Is PSI?

Patient-Specific Instrumentation (PSI) is a way of **planning shoulder replacement surgery before the operation** using a CT scan and 3D computer modelling.
Using this technology, **Dr Chen Tu plans your surgery in advance**, and custom surgical guides are created specifically for your shoulder anatomy. These guides are then used during surgery to help accurately position the shoulder replacement.

How PSI Is Used

- A **CT scan** of your shoulder is performed
- A **3D model** of your shoulder is created
- **Dr Chen Tu plans the surgery** using specialised software
- **Custom guides** are made based on this plan
- The guides are used during surgery to assist with accurate implant placement

Although the planning is done by the surgeon, the operation is **customised for you**.

Why a CT Scan Is Needed

The CT scan provides detailed information about the bones of your shoulder, particularly the socket, allowing accurate planning of implant position. MRI is not used for PSI planning.

Why PSI Is Used

PSI helps:

- Tailor surgery to your anatomy
- Improve accuracy and consistency of implant placement
- Manage bone wear or deformity more precisely

PSI improves how the surgery is planned and performed but does not change the overall recovery.

When PSI Is Used

PSI is used routinely in Dr Chen Tu's practice for both anatomic and reverse shoulder replacement surgery, where appropriate.

Important to Know

PSI does not remove the general risks of shoulder replacement surgery. These will be discussed with you separately as part of the consent process.

Contact Information

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Conclusion

Patient-Specific Instrumentation allows shoulder replacement surgery to be carefully planned in advance by Dr Chen Tu, using CT-based 3D modelling. Custom guides are then used during surgery to help accurately reproduce this plan, resulting in a procedure that is tailored to your shoulder anatomy.