

Freeing Frozen Shoulders: The 360° Release

Dr Kenneth Cutbush

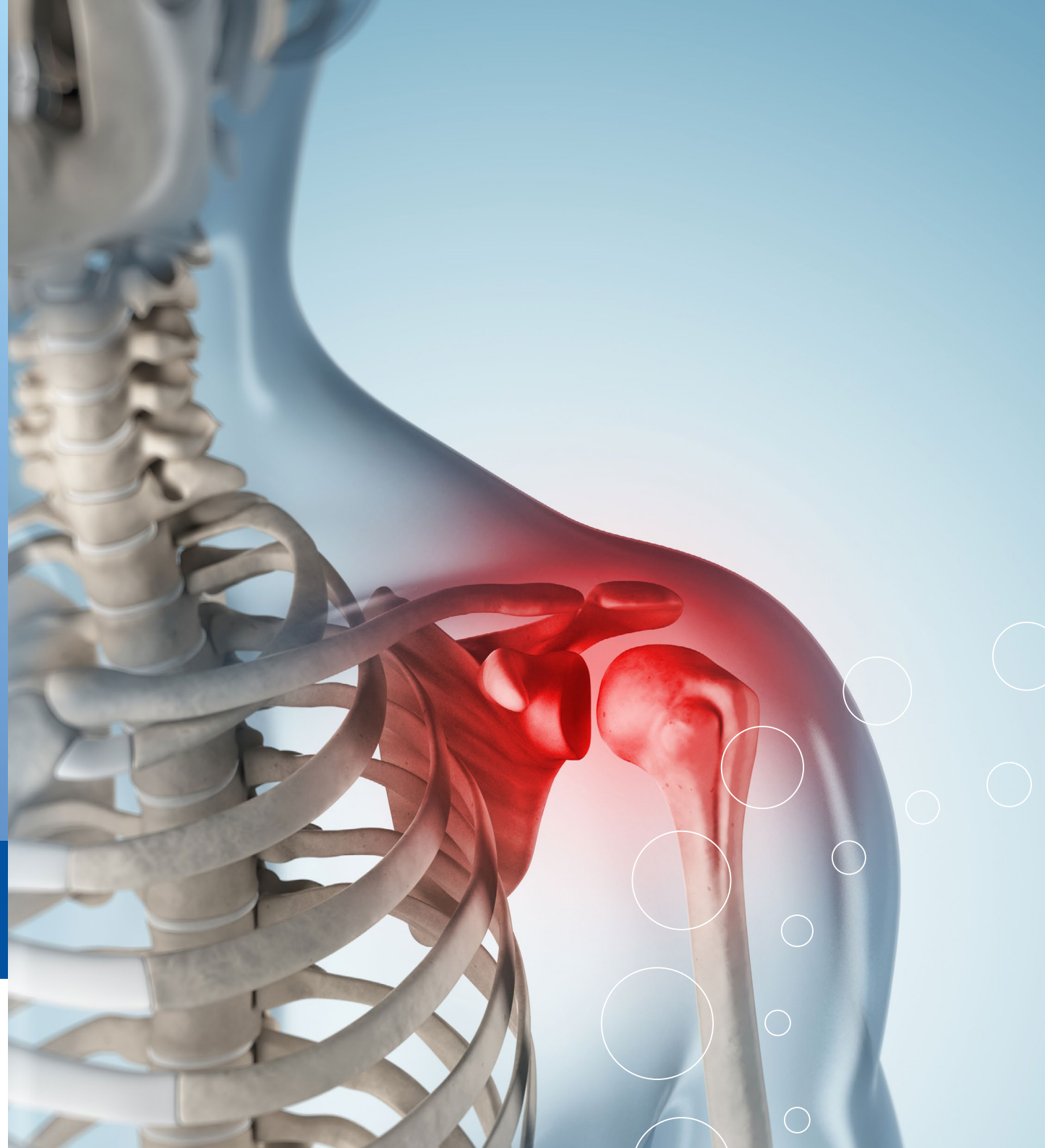
NOVEMBER 2024

doi.org/10.33548/SCIENTIA1127



MEDICAL & HEALTH SCIENCES

 Scientia





Freeing Frozen Shoulders: The 360° Release

A frozen shoulder can significantly impact a person's well-being. The constant pain and ongoing stiffness can sometimes only be relieved with surgery. Expert orthopaedic surgeon Dr Kenneth Cutbush from St Andrew's War Memorial Hospital in Brisbane, Australia, works tirelessly to help ease the suffering of patients with various shoulder problems. Alongside colleagues, he pioneers a minimally invasive surgical technique, the frozen shoulder 360° release.

Living with a Frozen Shoulder

A frozen shoulder, also known as shoulder contracture or adhesive capsulitis, causes pain and stiffness. The pain is often far worse at night, interfering with sleep. The pain can get so intense that it is difficult for sufferers to move their arm and shoulder, and the affliction can last anywhere from a few months to several years. Treatments include painkillers and anti-inflammatory medication, steroid injections to reduce swelling in the shoulder joint, and physiotherapy.

Generally, the condition will eventually resolve independently, given enough time. However, many patients continue to suffer some restriction of movement. There is hope for such patients, as an operation can be carried out to release the joint. However, there are a variety of surgical techniques available to achieve this. Dr Kenneth Cutbush holds a Shoulder Clinic at the St Andrew's War Memorial Hospital, helping patients find relief from their challenging shoulder joint conditions. Alongside colleagues, he researches orthopaedic surgery at both Queensland University of Technology's Queensland Unit for Advanced Shoulder Research (QUASR) and the University of Queensland. The team have refined a surgical technique called the 360° release.

Safe and Reliable

Dr Cutbush highlights that it is often unclear why people end up with a frozen shoulder. Sometimes, it can happen after an injury or a period of reduced mobility, for example, post-surgery. It is characterised by inflammation of the soft tissues and membranes that form a protective capsule around the joint. These tissues can then tighten and shrink, causing pain and restriction of movement. Scar tissue can form, further impacting the range of motion of the shoulder joint.

Frozen shoulder surgery aims to release these capsular tissues, improving range of motion and easing pain. Dr Cutbush uses a minimally invasive surgery technique called arthroscopy, where a small camera is used to see inside the problematic joint. The arthroscope is inserted through a tiny incision, and he can view the camera feed on a monitor. Repairs can then be performed using specialist instruments via additional small incisions around the shoulder joint. Dr Cutbush says this procedure, known as an arthroscopic capsular release, is emerging as a safe and reliable operation for treating severe frozen shoulder in patients with significant loss of range of motion.

Surgical Complications

Dr Cutbush explains that even though frozen shoulder is a self-limited condition that resolves in most patients, about 40% to 60% of patients suffer some persisting restriction of motion. Although surgery is a treatment option for those with severe, debilitating symptoms, it is not without risk. The surgery itself can result in further damage to the joint, and the amount of release achieved can vary. He adds that earlier surgical techniques generally involved only a partial release of the shoulder capsule, as many surgeons were concerned that a more extensive release could result in complications, like making the joint less stable.

Dr Cutbush has many years of experience carrying out extensive arthroscopic frozen shoulder release surgeries. In a recent paper, along with colleagues, he describes a reproducible surgical technique for a 360° release, which he found to be safe, reliable, and with a very high patient satisfaction score. He says that even though extensive techniques such as this have always been thought to have a high rate of complications, none occurred for his cohort of patients.



The Frozen Shoulder 360° Release

The 360° arthroscopic capsular release previously carried out with the patient in the lateral decubitus position is performed with the patient in a reclined beach chair position. This entails the patient lying face up with them sitting up at a 30° angle. The arm is held in an arm positioner by the patient's side and flexed forward 20° with inline traction. Two portals are created to insert the arthroscopic instruments, one anterior (at the front of the shoulder) and one posterior (at the back of the shoulder).

The procedure involves seven main steps, starting with placing the arthroscope through the posterior portal to give a view inside the joint. The front part of the shoulder capsule is then released via the anterior portal using an instrument called a straight arthroscopic punch. The shoulder capsule continues to be released all the way around, ending with the arthroscope switching portals, with a view from the anterior portal and the punch being carried out from the posterior portal.

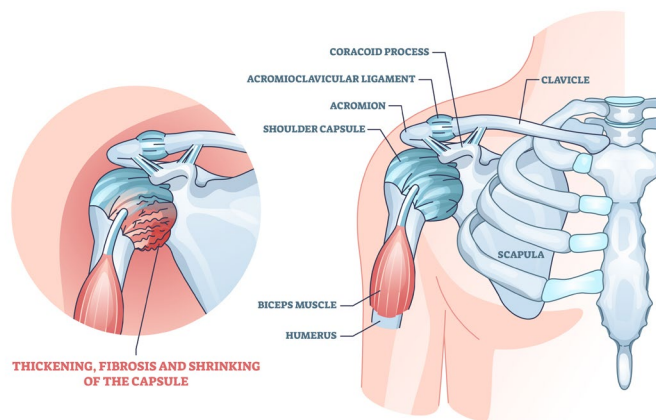
Dr Cutbush explains that the reclined beach chair positioning and the traction arrangement used allow for the full-thickness capsular release to be more easily achieved and make it straightforward to view and access certain areas of the inferior capsule of the shoulder joint, as well as minimise the risk of nerve damage. The very reclined 30° positioning also helps reduce the risk of blood flow problems to the brain during the operation, minimising the likelihood of neurological injuries, compared to the traditional 'beach chair' positioning of the patient, where they sit up a lot further.

High Patient Satisfaction

Dr Cutbush says that the arthroscopic capsular release was previously considered quite a risky option due to the possibility of complications, particularly for a condition that often resolves on its own if given enough time. Partial capsular releases were generally more accepted as it was thought that more extensive releases were likely to have higher rates of complications. However, Dr Cutbush's findings highlight that this may not be the case.

Dr Cutbush and his colleagues advocate the arthroscopic 360° capsular release as a safe and reliable method to achieve complete release of the shoulder capsule. Dr Cutbush adds that it is an option for those patients with debilitating restrictions caused by the contracture, shrinking and tightening of the shoulder capsular tissue, which limits the external rotation of the shoulder joint to less than 30°. His group of patients did not experience any complications, suggesting that the procedure is safe, and they were very satisfied with the outcome of the surgery, bringing fresh hopes for the treatment of this painful condition.

FROZEN SHOULDER



Dr Cutbush explains that the reclined beach chair positioning and the traction arrangement used allow for the full-thickness capsular release to be more easily achieved and make it straightforward to view and access certain areas of the inferior capsule of the shoulder joint, as well as minimise the risk of nerve damage.



MEET THE RESEARCHER



Dr Kenneth Cutbush

St Andrew's Specialist Suites, St Andrew's War Memorial Hospital, Brisbane, Queensland, Australia

Dr Kenneth Cutbush obtained his medical degree from the University of Queensland. He undertook much of his training at the Princess Alexandra Hospital, where he received the Gordon-Taylor Medal. He completed his postgraduate Orthopaedic Fellowship training at the Princess Alexandra Hospital in Hand and Upper Limb Surgery. Dr Cutbush is actively involved in research, having published numerous academic papers in international scientific journals, and is regularly invited to speak at surgical conferences worldwide. He was awarded the Shoulder and Elbow Society of Australia International Travelling Fellowship and is a corresponding member of the European Shoulder and Elbow Society (SECEC). He is closely involved in training surgeons and is the Chief Supervisor of four Australian Orthopaedic Association (AOA) accredited Fellowships in Shoulder Arthroscopy and Arthroplasty. In 2016, he was appointed Associate Professor at the University of Queensland, and in 2022, Adjunct Professor at the Queensland University of Technology. He currently holds several prestigious positions, including Scientific Secretary and Board member of the Australian Orthopaedic Association (AOA). Dr Cutbush's current work focuses on shoulder surgery, such as arthroscopic release for patients with severely frozen shoulders, and he holds a clinic at St Andrew's War Memorial Hospital.

✉ CONTACT

ken@kennethcutbush.com

www.kennethcutbush.com

[X.com/KennethCutbush](https://x.com/KennethCutbush)

facebook.com/kenneth.cutbush

LinkedIn.com/in/shoulder-surgeon-brisbane



KEY COLLABORATORS

Prof Ashish Gupta, Dr Kristine Italia, Dr Rishi Narasimhan



FURTHER READING

C Coutant, Hydropower peaking and stalled salmon K Cutbush, K Italia, R Narasimhan, A Gupta, [Frozen Shoulder 360° Release](#), *Arthroscopy Techniques*, 2021, 10(4), e963–e967. DOI: <https://doi.org/10.1016/j.jeats.2020.11.006>



Find out more at scientia.global