



Developed in conjunction with:



UROLOGICAL SOCIETY  
OF AUSTRALIA  
AND NEW ZEALAND

# Acute Scrotal Pain and Suspected Testicular Torsion

## INTRODUCTION

The most significant diagnosis to consider in a patient presenting with acute scrotal pain is that of torsion of the testis. Incidence of testicular torsion has a bimodal age distribution, occurring in neonates, adolescents and young adults. In most cases, presentation occurs between the ages of 12 and 18<sup>1</sup>.

Rotation of the spermatic cord results in ischaemia and subsequently infarction of the testis if perfusion is not re-established. If suspicion of testicular torsion exists, emergency assessment by the nearest available surgeon is mandatory.

## KEY WORDS

Acute scrotal pain, testicular torsion, de-torsion

## RACS POSITION

RACS supports all general, paediatric and urological surgeons being credentialed for the treatment of urgent surgical conditions of the testis and management of the acute scrotum which should be considered as core scope of practice.

In general all patients with suspected torsion of testis should be managed at the hospital of presentation; there is no requirement to transfer a patient with suspected torsion. Confirmatory investigations and transfer of patients to alternate hospital usually results in organ-threatening delay and should not occur in cases of suspected testicular torsion.

An exception would be a suspected torsion in a child less than 5 years of age, where there was no anaesthetist credentialed for administering an anaesthetic in this age group. In this case, a transfer time of less than one hour is recommended, and the referring general surgeon or urologist should determine the best management with the paediatric surgeon.

Surgical intervention should occur as soon as possible to maximize the chances of testicular salvage. Urgent exploration (recommended within 2 hours) should be performed by the surgeon on-call. Manual de-torsion can be attempted but must never delay surgery. It is appropriate to interrupt scheduled

Approved by: Professional Development & Standards Board	Version: 1	Approval date: February 2018
Document owner: Manager, Professional Standards	Review date: February 2021	Reference number: FES-PST-002



operating lists for organ preserving surgery such a scrotal exploration and fixation of the testes where torsion is suspected.

Testis salvage is higher if de-torsion occurs within 6 hours of pain, with salvage rates between 80 – 100%,<sup>ii</sup> although this rate diminishes over time: salvage remains a possibility for patients presenting up to 48 hours post torsion<sup>iii</sup>.

Predominately, the testis rotates medially in torsion. De-torsion should occur by grasping the inferior pole of the testis from below and rotating outwards. Successful de-torsion may re-establish blood supply, relieve pain and improve the position and lie of the testis. After manual de-torsion surgery is still required to confirm that the testis has been completely detorted (the degrees of rotation cannot be established reliably clinically alone) and to perform bilateral testicular fixation. If testicular torsion occurs on one side, it is likely that the contralateral testis has a long mesorchium and at risk of torsion as well. If a testicular torsion is found, fixation of *both* testes should occur during scrotal exploration.

Extremely rarely, maldescended testes can also become torqued. If torsion is suspected then the testis should be explored via an inguinal incision and the torsion corrected. If the surgeon performing the urgent exploration is unable to get the testis to the scrotum, it should be fixed where it lies. The child can then be transferred to a tertiary paediatric centre and the testis can be brought to the scrotum at a later time; ideally within 48 hours.

### Acute scrotum in young children

There are other conditions that cause acute scrotal pain in young children: the most common cause by far is torsion of an appendix testis. While torsion of testis and thus risk of testicular damage is less frequent in this group, specialist paediatric surgical review may still be warranted, and where there is any possibility of torsion of the testis, urgent surgical intervention required. As young children may have special perioperative needs, transfer of patients 7 years old or younger to a specialist paediatric hospital may be appropriate, depending on the local available anaesthetic and surgical expertise.

### KEY ISSUES

The diagnosis of acute scrotal pain can be difficult, with common causes of acute scrotal pain in 7 to 16 year olds being torsion of the appendix testis and testicular torsion. Unlike in adults, epididymitis is very rarely seen in this age group. Unlike other conditions, testicular torsion usually cause sudden onset of pain, with or without swelling, with or without trauma<sup>iv</sup>. If there is doubt about the diagnosis then surgical intervention should be undertaken promptly.

While ultrasound provides a non-invasive method of assessment for torsion, especially after puberty, it should not delay surgical intervention<sup>v</sup> as it is unable to exclude torsion of the testis reliably. Ultrasound scan should only be considered once the diagnosis of torsion has been clinically excluded, in order to investigate other possible diagnoses.

### ACKNOWLEDGEMENTS

This guideline was prepared as a collaboration between RACS, General Surgeons Australia, the New Zealand Association of General Surgeons, the Australian and New Zealand Association of Paediatric Surgeons and the Urological Society of Australia and New Zealand.

Approved by: Professional Development & Standards Board	Version: 1	Approval date: February 2018
Document owner: Manager, Professional Standards	Review date: February 2021	Reference number: FES-PST-002

## ASSOCIATED DOCUMENTS

This guideline has been developed in consideration to the principles of the RACS [Surgery in Children position paper](#).

## REFERENCES

<sup>i</sup> Srinath H. Acute scrotal pain. Australian Family Physician (2013, Nov), 42(11): 790-792.

<sup>ii</sup> Nason G, Tareen F, McLoughlin D, McDowell D, Cianci F, Mortell A. Scrotal exploration for acute scrotal pain: A 10-year experience in two tertiary referral paediatric units. Scandinavian Journal Of Urology. (2013, Oct), 47(5): 418-422.

<sup>iii</sup> Diaz E, Kimball D, Gong E. Acute Scrotal Pain in Pediatric Emergency Medicine: Assessment, Diagnosis, Management, and Treatment. Clinical Pediatric Emergency Medicine. (2014, Sep), 15(3): 248.

<sup>iv</sup> Diaz E, Kimball D, Gong E. Acute Scrotal Pain in Pediatric Emergency Medicine: Assessment, Diagnosis, Management, and Treatment. Clinical Paediatric Emergency Medicine. (2014, Sep), 15(3): 248.

<sup>v</sup> Murphy F, Fletcher L, Pease P. Early scrotal exploration in all cases is the investigation and intervention of choice in the acute paediatric scrotum. Paediatric Surgery International. (2006), (5): 413 - 416.

Approved by: Professional Development & Standards Board	Version: 1	Approval date: February 2018
Document owner: Manager, Professional Standards	Review date: February 2021	Reference number: FES-PST-002