

Sentinel Events Clinical Practice Points

Sentinel event review

The Safer Care Victoria (SCV) sentinel events program identified several cases of misdiagnosed testicular torsion within a nine-month period, each resulting in serious harm. These cases involve adolescents presenting to Victorian emergency departments (EDs) with acute abdominal pain. In response, SCV issued an alert to all Victorian health services. Following a further sentinel event notification, SCV convened an Expert Working Group to review the events.

Case Summaries

Case 1: A 16-year-old patient presented to a regional health service ED on three occasions over three consecutive days with swollen testes and mild testicular pain. An ultrasound revealed normal vascularity of the right testis with an incidental finding of an absent left testis. Specialist urology advice was sought from another regional health service. On day four, the patient presented to a regional health service ED with worsening pain and swelling. Ultrasound identified a necrotic right testis, which was confirmed during surgery, resulting in an orchidectomy.

Case 2: A 14-year-old patient presented to the ED with central lower abdominal pain. At the time of medical examination, he had no abdominal pain and did not complain of testicular pain and was discharged. On day seven, he was referred to the ED by his GP for suspected testicular torsion. Medical examination suggested epididymo-orchitis, and he was discharged for GP follow-up and ultrasound. On day ten, an ultrasound showed the absence of blood flow to the left testis. He subsequently required a left inguinal orchidectomy.

Case 3: A 15-year-old patient presented to ED with sudden onset right testicular pain with no associated trauma. History included ADHD, asthma, undescended testes in infancy, and previous testicular pain a year earlier that was treated as epididymo-orchitis. Medical examination noted no significant swelling, mild redness and tenderness to the right scrotum. The spermatic cord was not palpated due to pain. An urgent ultrasound reported torsion was likely. Prior to results being available, a urology review concluded torsion was unlikely. He was discharged and re-presented three days later with a swollen, hard, tender and painful right testis. Ultrasound showed infarction, and a right orchidectomy was performed.

Case 4: A 16-year-old patient presented to the ED with 14 hours of testicular pain, swelling, and lower abdominal pain. The patient was triaged as Category 2 - query testicular torsion. Clinical assessment was undertaken, and the patient was discharged with a plan for an ultrasound the following morning. The ultrasound, attended as requested, identified testicular torsion. He was advised to attend the ED where testicular torsion was diagnosed, and an orchidectomy was performed.

Note: Clinical details have been changed to protect patient privacy.

Key Learnings

Testicular torsion is a medical emergency requiring immediate surgical intervention.

Early diagnosis is critical.

- Timely diagnosis is essential to avoid delays in surgical intervention.
- Testicular torsion can present with non-specific symptoms, making prompt diagnosis challenging.
- Cases of acute abdominal pain, where testicular torsion has not been excluded, must be escalated to senior clinicians for review.
- Failure to escalate these cases can lead to delays in diagnosis and treatment.
- Adopting a "watch and wait" approach may result in avoidable harm.

Ultrasound should not be used to diagnose testicular torsion.

- Ultrasound results can be inaccurate and further delay diagnosis and treatment.

Suspected testicular torsion cases should be referred to the local surgical team for intervention.

- Urgent surgical review is required if testicular torsion cannot be excluded.
- For young children (≤ 8 y.o), local surgical teams should seek specialist paediatric surgery advice and guidance prior to intervention.

Patient factors can influence the diagnosis.

- Adolescents may downplay the severity of symptoms.
- Neurodivergent patients are at a higher risk of missed or delayed diagnosis as assessing pain levels can be challenging. It is important to consider parental concerns.

Health services should be prepared to respond to testicular torsion.

- If testicular torsion is suspected, timely surgical exploration is indicated.
- Develop an 'acute scrotal pain' plan detailing a local escalation process and pathway to 24-hour emergency paediatric support.
- Clinicians should consider scope of practice requirements and undertake further training where necessary to ensure timely assessment and treatment.

Acknowledgement

SCV would like to thank the health services and the clinical staff that participated in the Testicular Torsion Expert Working Group.

Further reading:

Royal Children's Hospital clinical guidelines

- [Acute scrotal pain or swelling](#)
- [Abdominal Pain – acute](#)

Royal Australian College of Surgeons

- [Acute scrotal pain and suspected testicular torsion guidelines \(2022\) | RACS](#)