NICE National Institute for Health and Care Excellence

NICE guidance

Percutaneous thoracic duct embolisation for persistent chyle leak

HealthTech guidance
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www.nice.org.uk/guidance/htg666

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

This guidance replaces IPG755.

1 Recommendations

1.1 Evidence on the safety and efficacy of percutaneous thoracic duct embolisation for persistent chyle leak is limited in quantity and quality. Therefore, this procedure should only be used with special arrangements for clinical governance, consent, and audit or research. Find out what special arrangements mean on the NICE guidance page.

1.2 Clinicians wanting to do percutaneous thoracic duct embolisation for persistent chyle leak should:

- Inform the clinical governance leads in their healthcare organisation.
- Give people (and their families and carers, as appropriate) clear written information to support shared decision making, including NICE's information for the public.
- Ensure that people (and their families and carers, as appropriate) understand the procedure's safety and efficacy, and any uncertainties about these.
- Audit and review clinical outcomes of everyone having the procedure. The main efficacy and safety outcomes identified in this guidance can be entered into NICE's audit tool (for use at local discretion).
- Discuss the outcomes of the procedure during their annual appraisal to reflect, learn and improve.

1.3 Healthcare organisations should:

- Ensure systems are in place that support clinicians to collect and report data on outcomes and safety for everyone having this procedure.
- Regularly review data on outcomes and safety for this procedure.

1.4 Patient selection should be done by a team experienced in managing the

condition, including a dietitian.

1.5 The procedure should only be done in specialist centres by clinicians with specific training and experience in this procedure.

1.6 NICE encourages further research into percutaneous thoracic duct embolisation for persistent chyle leak. Research should include details of patient selection, size and position of the leak, approaches used, and short- and long-term efficacy and safety outcomes.

2 The condition, current treatments and procedure

The condition

2.1 Chyle leak or discharge can occur as a result of thoracic duct injury (injury to the structure that returns lymph and chyle from the lower half of the body). Injury can happen during surgery, from trauma or from disease such as cancer. Chyle leak can cause delayed wound healing, dehydration, malnutrition, electrolyte imbalance, breathing problems and immunosuppression.

Current treatments

2.2 Small chyle leaks are usually treated with medicines and by managing nutrition (including by modifying diet or with total parenteral nutrition) to reduce chyle secretion and relieve symptoms. Persistent high-volume leaks may need drainage or percutaneous or open surgical repair (such as thoracic duct ligation).

The procedure

2.3 Thoracic duct embolisation is a percutaneous image-guided closure of the thoracic duct and is done under general or local anaesthesia. It is a 3-step process consisting of intranodal inguinal lymphangiography followed by percutaneous transabdominal catheterisation of the thoracic duct or cisterna chyli and then embolisation of the thoracic duct.

2.4 Under fluoroscopic or ultrasound guidance, an oil-based contrast medium is injected into inguinal lymph nodes. This progresses slowly through the network of pelvic and retroperitoneal lymphatic vessels and allows the thoracic duct and cisterna chyli to be visualised. Then, through transabdominal access under imaging guidance, the target thoracic duct or cisterna chyli is accessed with a

guidewire using a needle. A microcatheter is advanced over the guidewire into the thoracic duct, then the guidewire is removed. Contrast medium is injected through the catheter to define the source of the leak and the thoracic duct anatomy. The target thoracic duct and its branches are embolised proximally to the leak with a combination of microcoils and cyanoacrylate glue.

3 Committee considerations

The evidence

3.1 NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 7 sources, which was discussed by the committee. The evidence included 1 meta-analysis, 1 systematic review and 5 retrospective case series. It is presented in the summary of key evidence section in the overview. Other relevant literature is in the appendix of the overview.

3.2 The professional experts and the committee considered the key efficacy outcomes to be: reduction in chyle leak, improved quality of life and improved nutrition.

3.3 The professional experts and the committee considered the key safety outcomes to be: pain, bleeding, infection including abdominal sepsis, chronic diarrhoea, bile leak and damage to intra-abdominal structures.

3.4 One commentary from a person who has had this procedure was discussed by the committee.

Committee comments

3.5 The evidence included procedures that were done mostly through a transabdominal approach, but other approaches could be used.

3.6 The committee was informed that lymphangiography alone may resolve chyle leak.

3.7 The committee was informed that ligating the thoracic duct by thoracotomy was an alternative treatment for this indication.

3.8 The committee was informed that the aetiology of chyle leaks is more complex in children and the procedure may have additional risks in children.

Update information

Minor changes since publication

January 2026: Interventional procedures guidance 755 has been migrated to HealthTech guidance 666. The recommendations and accompanying content remain unchanged.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.