

Hernia Surgery in Adults

(Femoral and Inguinal Hernia, and Divarication of Recti)

Policy

Asymptomatic hernias¹ which are easily reducible and do not have increased risk of incarceration or strangulation should be managed conservatively by observation and review.²

Hernias with alarm symptoms should be urgently referred for surgery.

Alarm Symptoms in a patient with hernia:³

- Signs and symptoms of strangulation including: irreducible mass which is firm, painful, and tender (and erythema over mass in later stages).
- Signs of bowel obstruction.
- Signs of sepsis: fever and raised white blood cell (WBC) count.

Assessment should rule out incarceration or strangulation as these are surgical emergencies requiring urgent referral.

Femoral Hernia:

Patients with femoral hernias should be referred for consultation. (Prompt referral.)

Inguinal Hernia:

The elective surgical treatment for asymptomatic or mildly symptomatic inguinal hernia will not be routinely commissioned in male adults and is considered a **Low Priority**. Watchful waiting following a fully informed discussion is recommended for those who are asymptomatic.

Patients can be referred if they have any of the following:

1. History of incarceration or real difficulty in reducing the hernia.
2. An inguino-scrotal hernia.
3. Significant symptoms such as:
 - a. Increase in size, month to month.
 - b. Pain with strenuous activity, prostatism or discomfort significantly interfering with activities of daily living which may include inability to work.

Patients with groin pain and occult hernia (without clinical evidence of hernia) should be offered watchful waiting for their "hernia".

Divarication of Recti:

Diastases/Divarication of recti is a separation between the left and right side of the rectus abdominis muscle, and causes a protrusion in the midline, but is not a 'true' hernia and does not carry the risk of bowel becoming trapped within it and thus does not require repair.^{4,5}

PCTs in Cambridgeshire consider repair of divarication of recti as a cosmetic procedure and a low priority. Evidence suggests that divarication does not carry the same risks as that of actual herniation.

Rationale and Evidence

European Hernia Society guidelines on the treatment of inguinal hernia in adult patients recommend watchful waiting for male adults with asymptomatic or mild symptomatic hernia.⁶

A publication from the National Danish Register that records more than 10,000 inguinal hernia repairs per year also recommends watchful waiting for mild or asymptomatic inguinal hernia in male adults.⁷ However, patients with an increased risk of incarceration or with an increased risk of higher morbidity and mortality after emergency repair should be excluded from conservative treatment.⁸

Inguinal Hernia repair is not without complications, and therefore, the risk/benefit for prophylactic surgery needs to be carefully considered. Recurrence rates are reported to be 1-3% with a mortality of 0.01-0.6%. Early complications include haematoma, DVT (deep vein thrombosis), pulmonary embolism and wound infection. Late complications are paraesthesiae, anaesthesia, chronic pain (5%-20%), testicular damage and mesh infections. BMJ Clinical Evidence concluded that conservative management (ie watchful waiting) of unilateral hernia might be considered as a reasonable strategy in people who have only mild symptomatic inguinal hernias.⁹

There is evidence from good quality RCTs (Randomised Control Trials),^{10, 11, 12, 13} European guidelines⁶ and a literature review⁷ that watchful waiting is a safe and cost-effective treatment for asymptomatic or minimally symptomatic inguinal hernias in male adults.

Femoral hernias have a considerably high morbidity and mortality particularly in females, therefore, careful diagnosis and prompt referral for femoral hernias is recommended.^{6, 8, 9}

A recently published UK study which is a systematic review of evidence on repair of divarication of recti, reports a recurrence rate of up to 40% which is unacceptably high. Other common complications reported included haematomas, minor skin necrosis, wound infections, dehiscence, post-operative pain and nerve damage. Authors conclude that repairs are primarily cosmetic and divarication does not carry the same risks as of actual herniation.¹⁴

According to NICE, laparoscopic (minimally invasive) surgery is recommended as one of the treatment options for the repair of inguinal hernia.¹⁵ NICE recommends that patients should be fully informed of all of the risks (eg immediate serious complications, postoperative pain/numbness and long-term recurrence rates) and benefits associated with each type of procedures, to enable patients to choose between open and laparoscopic surgery.

Numbers of people affected

Epidemiological background

Hernias comprise approximately 7% of all surgical outpatient visits. Male : female ratio is 8:1. In men the incidence rises from 11 per 10,000 person years aged 16-24 years to 200 per 10,000 person years aged 75 years or above.¹⁶

The incidence of groin hernias in adults increases with age. It is estimated that the incidence of groin hernias is 0.7 per 1,000 per year between the age of 45–64 years rising to 1.5 per 1,000 per year over the age of 75.^{17, 18}

Inguinal hernias are 9 to 12 times more common in men than in women, where as femoral hernias are 4 times more common in women.¹⁶

A retrospective chart review of patients presenting at urogynaecological wards found diastasis of recti in 52% of patients.¹⁹

Table 1: Statistics on Groin Hernia Procedures - Inpatient Statistics for England: 2009-10

Main procedures and interventions: 3 character code and description	Admissions	Male	Emergency	Mean length of stay	Mean age in years	Day case	FCE bed days
T19 Simple excision of inguinal hernia sac	6,839	87%	7%	1.9	4	73%	3,539
T20 Primary repair of inguinal hernia	65,072	93%	4%	1.7	58	59%	52,477
T21 Repair of recurrent inguinal hernia	5,522	97%	9%	2	63	43%	7,202
T22 Primary repair of femoral hernia	2,939	28%	47%	5.3	66	32%	11,666
T23 Repair of recurrent femoral hernia	194	36%	31%	3.9	67	28%	701

Source: The NHS Information Centre, Hospital Episode Statistics for England. Inpatient statistics, 2009-10.

OPCS Codes:

- T19:** Simple excision of inguinal hernia sac
- T20:** Primary repair of inguinal hernia
- T21:** Repair of recurrent inguinal hernia
- T22:** Primary repair of femoral hernia
- T23:** Repair of recurrent femoral hernia
- T27:** Repair of ventral hernia
- T28:** Repair of other hernia of abdominal wall

References

1. Blacks Medical Dictionary, 42nd edition, published 2010.
2. NHS West Essex Service restriction policy for Hernia. March 2010.
3. Map of Medicine. Hernia Alarm symptoms. Available from <http://eng.mapofmedicine.com/evidence/map/hernias1.html>.
4. Medline Plus. Diastasis recti. June 2007. <http://www.nlm.nih.gov/medlineplus/ency/article/001602.htm>.
5. H George Burkitt, Clive R, G Quick, Joanna B Reed. Essential surgery: problems, diagnosis and management. 2007: 294-295.
6. Simons, M P, Aufenacker, T, Bay-Nielsen, M et al. (2009) European Hernia Society guidelines on the treatment of inguinal hernia in adult patients. *Hernia* 13(4), 343-403.
7. Rosenberg J; Bisgaard T; Kehlet H; Wara P; Asmussen T; Juul P; Strand L; Andersen FH; Bay-Nielsen M. Danish (2011) Medical Bulletin, vol./is. 58/2(C4243), 0907-8916;1603-9629.
8. B van den Heuvel, B J Dwars, D R Klassen and H J Bonjer (2011). Is surgical repair of an asymptomatic groin hernia appropriate? A review. *Hernia*. DOI 10.1007/s10029-011-0796-y: Springer Verlag. Available from: <http://www.springerlink.com/content/54m024263k06422j/>.
9. BMJ Clinical Evidence: www.clinicalevidence.com.
10. Fitzgibbons R J Jr, Giobbie-Hurder A, Gibbs J O et al (2006). Watchful waiting vs repair of inguinal hernia in minimally symptomatic men: a randomized clinical trial. *JAMA* 295(3):285–292.
11. O'Dwyer P J, Norrie J, Alani A, Walker A, DuVy F, Horgan P (2006). Observation or operation for patients with an asymptomatic inguinal hernia: a randomized clinical trial. *Ann Surg* 244(2): 167–173.
12. Stroupe K T, Manheim L M, Luo P et al (2006). Tension-free repair versus watchful waiting for men with asymptomatic or minimally symptomatic inguinal hernias: a cost-effectiveness analysis. *J Am Coll Surg* 203(4):458–468.
13. Thompson J S; Gibbs J O; Reda D J; McCarthy M Jr; Wei Y; Giobbie-Hurder A; Fitzgibbons RJ Jr. (2008). Does delaying repair of an asymptomatic hernia have a penalty? *American Journal of Surgery*, vol./is. 195/1(89-93), 0002-9610;1879-1883.

References cont'd

14. Hickey F, Finch JG, Khanna A. A systematic review on the outcomes of correction of diastasis of the recti. Hernia. 2011. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/21688021> Accessed 5 July 2011.
15. NICE guidelines for Laparoscopic surgery for inguinal hernia repair. National Institute of Clinical Excellence.(2004), Technology Appraisal Guidance 83. <http://www.nice.org.uk/nicemedia/pdf/TA083guidance.pdf>
16. Jenkins J T; O'Dwyer P J; Inguinal hernias. BMJ. 2008 Feb 2;336(7638):269-72.
17. Palumbo L T, Sharpe W S (1971). Primary inguinal hernioplasty in the adult. Surg Clin N Am 51(6):1293–1307.
18. McIntosh A, Hutchinson A, Roberts A, Withers H (2000). Evidence-based management of groin hernia in primary care—a systematic review. Fam Pract 17(5):442–447.
19. Theresa M Spitznagle, Fah Che Leong, Linda R Van Dillen. Prevalence of diastasis recti abdominis in a urogynecological patient population. International Urogynecol Journal.2007;18:321–328.
20. Douglas G, Nicol F and Robertson C (Eds.) (2009). Macleod's clinical examination. 12th edn. Edinburgh: Churchill Livingstone Elsevier.
21. George A Sarosi, et al. (2011). A Clinician's Guide to Patient Selection for Watchful Waiting Management of Inguinal Hernia. Ann Surg;253:605–610.
22. Boissonnault J S and Blaschak M J. Incidence of diastasis recti abdominis during the childbearing year. Physical Therapy. 1988; 68: 1082-1086.
23. Gilleard W L and Brown J M M: Structure and function of the abdominal muscles in primigravid subjects during pregnancy and the immediate postbirth period. Physical Therapy. 1996;76: 750-762.
24. Hsia M and Jones S: Natural resolution of rectus abdominis diastasis. Two single case studies. Australian Journal of Physiotherapy 2000;46: 301-307.
25. Yvonne C et al. Postpartum characteristics of rectus abdominis on ultrasound imaging. 2008;13 (2): 112-121.
26. Parker A. Diastasis Rectus Abdominis and Lumbo-Pelvic Pain and Dysfunction - Are They Related? Journal of Women's Health Physical Therapy: Summer 2009;33(2):15–22.
27. Nahas X, Augusto M, Ghelfond C. Should diastasis recti be corrected? Aesthetic Plast Surg. 1997;21(4):285-9.
28. Vestn K et al. A method of surgical treatment of diastasis recti abdominis. CIC edizioni internazionali 2001; 160(3):77-8.

Glossary¹

Asymptomatic:	The lack of any symptoms of disease – whether or not a disease is in fact present.
Dehiscence:	The breaking open of a wound that is partly healed, usually after surgery.
Hernia:	Hernia is a protrusion of an internal organ of the body through a weakness in the muscle or surrounding tissue wall of the cavity that normally contains it.
Herniorraphy:	Surgical repair of a hernia. This may be done as an open operation or as minimally invasive surgery (MIS) using a Laparoscope.
Incarcerated Inguinal Hernia:	An incarcerated inguinal hernia is a hernia that becomes stuck in the groin or scrotum and cannot be massaged back into the abdomen.
Prostatism:	A condition induced by benign enlargement of the prostate gland.
Strangulation:	Portion of bowel may become trapped, cutting off the blood supply and causing the trapped bowel to die or rupture.

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