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NHS
National Institute for Clinical Excellence

Lumbar subcutaneous shunt

1 Guidance

1.1 Current evidence on the safety and efficacy of lumbar subcutaneous shunt does not appear adequate for this procedure to be used without special arrangements for consent and for audit or research.

1.2 Clinicians wishing to undertake lumbar subcutaneous shunt should take the following actions.

- Inform the clinical governance leads in their Trusts.
- Ensure that patients understand the uncertainty about the procedure's safety and efficacy and provide them with clear written information. Use of the Institute's *Information for the Public* is recommended.
- Audit and review clinical outcomes of all patients having lumbar subcutaneous shunt.

1.3 Publication of safety and efficacy outcomes will be useful in reducing the current uncertainty. The Institute may review the procedure upon publication of further evidence.

2 The procedure

2.1 Indications

2.1.1 This procedure is used to treat communicating hydrocephalus (normal pressure hydrocephalus) and benign intracranial hypertension (pseudotumour cerebri).

2.1.2 Communicating hydrocephalus is an uncommon condition caused by excess cerebrospinal fluid collecting in the subarachnoid space. Causes include congenital abnormality, brain haemorrhage and meningitis, but in some cases, no cause is found. The symptoms include confusion, gait disturbance and urinary incontinence. Untreated, the condition may cause brain damage or death.

2.1.3 Benign intracranial hypertension is an uncommon condition of unknown cause, in which the pressure of the cerebrospinal fluid is increased. The symptoms include headache, dizziness and visual problems. The prognosis is generally good, although a few people may experience permanent visual loss.

2.2 Outline of the procedure

2.2.1 A cerebrospinal fluid shunt is a system of valved tubes that carries cerebrospinal fluid from the subarachnoid space to another part of the body to drain it and prevent damage to the brain or eyes. Usually, a shunt is tunnelled under the skin, with the upper end in a cerebral ventricle and the lower end in the heart (ventriculo–atrial shunt) or in the peritoneum (ventriculo–peritoneal shunt). Alternatively, the upper end of the shunt may be placed in the subarachnoid space in the lumbar part of the back, with the lower end draining fluid into the peritoneum (lumbar–peritoneal shunt).

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2.2.2 A lumbar subcutaneous shunt differs from the types of shunt described in section 2.2.1 in that the cerebrospinal fluid drains into the space immediately under the skin. A narrow tube is inserted percutaneously into the subarachnoid space in the lumbar part of the back and is tunnelled under the skin to a site where fluid can drain, usually in the flank or abdomen. The advantage is that general anaesthetic is not required, unlike for other shunt procedures.

2.3 Efficacy

2.3.1 No studies reporting efficacy outcomes of lumbar subcutaneous shunt were identified.

2.3.2 The Specialist Advisors noted that this procedure is only being undertaken by one surgeon in the UK. One Advisor was unsure about the efficacy of the procedure because the subcutaneous tissues do not absorb cerebrospinal fluid; however, data are being collected to investigate this.

2.4 Safety

2.4.1 No studies reporting safety outcomes of lumbar subcutaneous shunt were identified.

2.4.2 One Specialist Advisor considered the main potential adverse effects of the procedure to be infection, subdural haematoma and irritation of nerve roots.

3 Further information

3.1 The surgeon who has been carrying out this procedure has been collecting data for several years on patients who have undergone the procedure, but there have been no publications to date.

Andrew Dillon
Chief Executive
June 2004

Information for the Public

The Institute has produced information describing its guidance on this procedure for patients, carers and those with a wider interest in healthcare. It explains the nature of the procedure and the decision made, and has been written with patient consent in mind. This information is available, in English and Welsh, from www.nice.org.uk/IPG068publicinfo

Sources of evidence

The evidence considered by the Interventional Procedures Advisory Committee is described in the following document.

Interventional procedure overview of lumbar subcutaneous shunt, December 2002

Available from: www.nice.org.uk/ip174overview

Ordering information
Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference number N0603. *Information for the Public* can be obtained by quoting reference number N0604 for the English version and N0605 for a version in English and Welsh.

The distribution list for this guidance is available on the NICE website at URL www.nice.org.uk/IPG068distributionlist

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National Institute for Clinical Excellence
MidCity Place, 71 High Holborn, London WC1V 6NA, website: www.nice.org.uk

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