NICE National Institute for Health and Care Excellence

NICE guidance

Therapeutic amnioinfusion for oligohydramnios during pregnancy (excluding labour)

HealthTech guidance

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www.nice.org.uk/guidance/htg124

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 IPG192.

1 Recommendations

1.1 Current evidence on the safety and efficacy of therapeutic amnioinfusion for oligohydramnios during pregnancy (excluding labour) does not appear adequate for this procedure to be used without special arrangements for consent and for audit or research. Most of the evidence on the procedure relates to preterm premature rupture of membranes, rather than other causes of oligohydramnios.

1.2 Clinicians wishing to undertake therapeutic amnioinfusion for oligohydramnios during pregnancy (excluding labour) should take the following actions.

- Inform the clinical governance leads in their Trusts.
- Ensure that parents understand the uncertainty about the procedure's safety and efficacy, including the potential risks to the mother, and provide them with clear written information. In addition, use of NICE's information for the public is recommended.
- Audit and review clinical outcomes of all patients having therapeutic amnioinfusion for oligohydramnios during pregnancy (see NICE's interventional procedures outcomes audit tool).

1.3 Therapeutic amnioinfusion for oligohydramnios during pregnancy should only be performed in centres specialising in invasive fetal medicine and in the context of a multidisciplinary team, which may include a consultant in fetal medicine, a neonatologist and a specialist midwife.

1.4 Further research will be useful. Clinicians are encouraged to enter patients into well-designed randomised controlled trials comparing therapeutic amnioinfusion with no intervention. NICE may review the procedure upon publication of further evidence.

2 The procedure

2.1 Indications

2.1.1 An abnormally low volume of amniotic fluid surrounding the fetus is termed oligohydramnios.

2.1.2 Oligohydramnios may be the result of decreased fetal urine production or excretion, or excessive loss of amniotic fluid. Causes of oligohydramnios include premature preterm rupture of amniotic membranes, congenital abnormalities of the fetus's urinary tract, placental insufficiency, twin-to-twin transfusion syndrome, post-maturity (more than 42 weeks' gestation), problems with maternal health, such as high blood pressure, and some medications. Severe oligohydramnios in early pregnancy may lead to the underdevelopment of fetal lung tissue (pulmonary hypoplasia) and limb defects and is associated with poor fetal growth. There is also an increased risk of miscarriage, premature birth and stillbirth.

2.1.3 Oligohydramnios is not routinely treated during pregnancy. There is some evidence that maternal hydration can increase the volume of amniotic fluid.

2.2 Outline of the procedure

2.2.1 Under ultrasound guidance, isotonic fluid, such as normal saline or Ringer's lactate, is infused into the amniotic cavity via a needle inserted through the uterine wall, to restore the volume of amniotic fluid to normal. The procedure may be repeated on a regular basis if oligohydramnios recurs (serial amnioinfusion).

2.3 Efficacy

2.3.1 A randomised controlled trial of 34 pregnant women reported a significantly lower incidence of pulmonary hypoplasia among fetuses of pregnancies treated

with amnioinfusion compared with the controls – (12% [2 of 17] versus 53% [9 of 17]; relative risk 0.22; 95% confidence interval 0.05 to 0.87, p<0.05). A non-randomised comparative study reported a rate of pulmonary hypoplasia among neonates of 23% (6 of 26) in the treated group compared with 31% (4 of 13) in the control group (not significantly different).

2.3.2 In a randomised controlled trial comparing amnioinfusion with expectant management, neonatal mortality was 6% (1 of 17) in both the treated group and the control group 6% (1 of 17). A non-randomised controlled study reported neonatal mortality (excluding stillbirths) of 18% (2 of 11) in the treated group compared with 71% (5 of 7) in the expectant-management group (p=0.05). In another non-randomised comparative study, mortality within the first week after birth was 23% (6 of 26) in the treated group compared with 38% (5 of 13) in the expectant-management group (not significantly different). A third non-randomised comparative study reported a survival rate of 73% (8 of 11) for neonates treated with amnioinfusion and 21% (6 of 29) for those managed expectantly (p<0.05). For more details, see the overview.

2.3.3 The specialist advisers stated that key efficacy outcomes include prolongation of gestation, reduced incidence of pulmonary hypoplasia and improved neonatal survival.

2.4 Safety

2.4.1 A non-randomised comparative study including 45 women treated with serial amnioinfusion reported onset of labour shortly after the procedure in one case (2%).

2.4.2 One non-randomised comparative study reported miscarriage in 11% (3 of 28) of women with unruptured membranes and 21% (5 of 24) of women with ruptured membranes treated with amnioinfusion. A second non-randomised, retrospective case series reported miscarriage in 12% (2 of 17) of pregnancies. Four studies reported intrauterine fetal death rates ranging from 0% (0 of 15) to 14% (4 of 28) in pregnancies treated with amnioinfusion, and from 0% (0 of 14) to 38% (11 of 29) in pregnancies managed expectantly.

2.4.3 Other complications included placental abruption in 0% (0 of 11) to 25% (3 of 12) of cases and chorioamnionitis in 0% (0 of 11) to 32% (8 of 25) of cases. A study including 12 women treated with amnioinfusion reported that 1 neonate had a laceration on the leg that required sutures, which was attributed to the procedure. For more details, see the overview.

2.4.4 The specialist advisers listed potential adverse events as including premature labour and delivery, fetal death, fetal trauma, infection, uterine perforation and premature rupture of membranes.

Update information

Minor changes after publication

January 2026: Interventional procedures guidance 192 has been migrated to HealthTech guidance 124. The recommendations and accompanying content remain unchanged.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.