

SCHEDULE 2 – THE SERVICES

Service Specification No:	
Service	Specialist maternity care for women diagnosed with abnormally invasive placenta
Commissioner Lead	Anthony Prudhoe
Provider Lead	Catherine Greenwood

1. Scope

1.1 Prescribed Specialised Service

Specialist maternity care for women suspected of, and diagnosed with, abnormally invasive placenta (AIP).

1.2 Description

Specialist maternity care for women suspected of, and diagnosed with, AIP includes services provided by Specialist Maternal Care Centres delivered as part of a provider network.

NHS England commissions specialist maternity care services for women suspected of, and diagnosed with, AIP from Specialist Maternal Care Centres. This includes specialist prenatal diagnosis, risk assessment and definitive treatment of AIP.

1.3 How the Service is Differentiated from Services Falling within the Responsibilities of Other Commissioners

CCGs commission all other maternal care services.

2. Care Pathway and Clinical Dependencies

2.1 Care Pathway

AIP Centres provide specialised services as part of a regional network arrangement with local maternity services in accordance with predefined referral guidelines and protocols.

Elective pathway

Women are referred to the AIP centre in accordance with a predefined protocol (see Flow chart and risk factors in Appendix 1 and 2). This includes referral of women with a history of previous AIP or an ultrasound suspicion of AIP at any gestation or for women with risk factors, after ultrasound confirmation of low lying placenta at 28 weeks in their local unit.

Women reviewed in the AIP centre and deemed to be at high risk of AIP should be delivered by the specialist multi-disciplinary team (MDT) in the designated AIP Centre.

Non-elective pathway

Some cases of AIP may be 'missed' antenatally by the local maternity team and only discovered at delivery. These cases will be managed according to a predefined protocol.

If the AIP is discovered at caesarean section and there is no acute maternal or fetal compromise, delivery will be deferred, the maternal abdomen closed and patients urgently transferred to the designated AIP Centre. If emergency delivery is required, the baby will be delivered via a uterine incision which avoids the placenta. If the mother remains stable, the hysterotomy will be closed leaving the placenta in situ and the patient transferred urgently to the designated AIP Centre. If the AIP is diagnosed after vaginal delivery the cases will be dealt with on an individual basis following discussion with the AIP centre.

The service comprises of:

Diagnostic service

An expert-led diagnostic service (usually ultrasound based but may include magnetic resonance imaging: MRI) to diagnose AIP and assess the level of risk posed by the AIP.

Experienced surgical team working to predefined intra-operative criteria for clinical confirmation of AIP.

Pathological expertise working to predefined criteria for histological confirmation of the diagnosis.

Multidisciplinary planning for elective and emergency delivery

A nominated, highly specialised multidisciplinary team including but not limited to:

- Two expert AIP diagnostic specialists (usually fetal medicine doctors)
- Two obstetricians with experience in high risk care
- Two specialist surgeons with experience in complex pelvic surgery (usually gynae-oncologists)
- Two obstetric anaesthetists with experience in high risk intra-partum care
- Two intervention radiologists with experience in AIP

Other required services

- 24 hour availability of consultant obstetricians with expertise in high risk intra-partum care including massive obstetric haemorrhage (MOH)
- 24 hour availability of consultant obstetric anaesthetic cover
- 24 hour availability of consultant surgeons with expertise in complex pelvic surgery (usually gynae-oncologists)
- 24 hour availability of consultant urologists experienced in bladder and ureteric reconstruction
- 24 hour availability of interventional radiological services
- Availability of blood and blood products on site and access to a 24 hour haematology advice service with local protocols in place for rapid access to platelets and clotting factors
- A robust protocol for Major Obstetric Haemorrhage
- Capacity to provide ring-fenced theatre time and space

Post delivery services

- On site adult intensive care unit
- Midwifery staff trained in postnatal care of the seriously ill woman

- The facility for providing all elements to maximise safety of the baby at the time of delivery
- On site access to level 3 neonatal care

2.2 Interdependence with other Services

AIP generates complex problems which cannot be managed solely in an obstetric environment.

Essential services

- Specialist AIP diagnostic imaging
- Complex pelvic surgery (usually gynae-oncology)
- Obstetric anaesthesia
- Transfusion services including cell salvage
- Interventional radiology
- Urology support (with oncology experience including open bladder surgery)
- General surgery
- Vascular surgery
- Adult intensive care
- Neonatology
- Pathology service

Interdependent services

- Specialist midwifery care
- Strategic clinical networks for maternity and children's services
- Perinatal mental health services

Related Services

- Primary care
- Community midwifery services public health nurses , health visiting
- Ambulance services
- Voluntary support services

3. Population Covered and Population Needs

3.1 Population Covered By This Specification

This service is for all patients falling with the direct commissioning responsibilities of NHS England.

3.2 Population Needs

Abnormally invasive placenta (AIP) is a rare and potentially fatal pregnancy complication where the placenta is abnormally adherent to the womb (accreta) invades into the wall of the womb (incretta) or even through the wall and out into the pelvis (percreta). If an attempt is made to forcibly remove the placenta catastrophic maternal haemorrhage can ensue.

AIP appears to be the result of the placenta implanting over scarring to the uterus from previous uterine surgery and so can occur anywhere that there is scarring. The most common uterine surgery however, and demonstrably the single greatest risk factor for AIP, is previous caesarean delivery (CD). As a previous CD scar is usually in the anterior lower segment of the uterus if the placenta implants over it, this results in AIP complicating a placenta previa. This combination poses multiple problems including increased risk of antenatal bleeding, difficult access to the baby for delivery and the relatively poor contractility of the lower segment leading to greater blood loss.

This is a heterogeneous condition with multiple potential management strategies but there is no doubt that at the severe end of the spectrum it is extremely dangerous. The maternal mortality rate with the severe AIP (percreta) has been estimated to be as high as 7% (2) (900 times the background risk of maternal death). AIP is also associated with increased risk of harm to the baby including a 40% incidence of low birth weight and a perinatal mortality rate which is three times higher than that of the normal population.

It is a rare condition and the average UK obstetric unit will only see about one case per year arising in their locally based population. A population-based descriptive study using the UK Obstetric Surveillance System (UKOSS) in 2011 identified 134 women with AIP in UK. This gives a UK estimated incidence of 1.17 AIPs per 10,000 cases of pregnancy. This study also reported 13% of the women experienced severe complications including maternal cardiac arrest.

A soon to be published observational study, led by clinicians in Oxford, contacted all 154 obstetric led units in England asking for details regarding intended place of delivery for antenatally diagnosed AIP and the estimated numbers of cases treated over the last 5 years (2012-2017). One hundred and fourteen units replied to the survey (74%). Extrapolating their numbers to all the units in England gives an estimate of approximately 344 procedures per year, an incidence of 5.2 cases per 10,000 births. This is higher than the previous incidence reported by UKOSS in 2013 but is in line with the numbers being anecdotally reported by English Clinicians.

For integrated impact assessment planning purposes we have estimated that the total number of procedures for all centres in England is 344 per year.

3.3 Expected Significant Future Demographic Changes

According to studies published in the last two decades, the incidence of AIP has increased 10 fold throughout the world. This is largely due to the increasing caesarean section (CS) rate as caesarean delivery is the single greatest risk factor for AIP particularly placenta previa with AIP.

CS rates in England:-

2011/12 - 25%,

2012/13 – 25.5%

2013/14 – 26.2%

3.4 Evidence Base

Multiple studies have shown that both maternal mortality and morbidity are reduced when women with AIP deliver in an AIP centre with a multidisciplinary care team who have experience in managing the risks and challenges presented by AIP. This relies on both recognition of the women at risk of AIP and accurate antenatal diagnosis, a challenge highlighted in the 7th Confidential Enquiry into Maternal and Child Health (CEMACH) report 'Saving Mothers' lives'.

Current antenatal diagnosis rests on subjective interpretation of 'typical' sonographic findings with 2-dimensional (2D) greyscale and colour Doppler ultrasound. Many signs have been suggested in the literature with varying reports as to their sensitivity and specificity. To improve consistency and allow appropriate comparison of different imaging markers, panels of experts have recently published consensus statements aiming to standardise the descriptions and minimum requirements for an ultrasound scan to diagnose AIP (Collins et al and Alfirevic et al). Magnetic resonance imaging (MRI), although widely employed, has yet to clearly demonstrate an improvement in management or pregnancy outcomes and is currently only recommended as an adjunct to ultrasound in the current RCOG guidelines. Irrespective of the imaging modality used, diagnosis is entirely subjective with accuracy depending on the level of experience of the operator, which is limited by the rarity of the condition. Inexperienced operators have a tendency to 'over-call' the diagnosis potentially resulting in maternal morbidity from measures taken to reduce potential haemorrhage including unnecessary hysterectomy and vertical abdominal incision.

Involvement of a multidisciplinary team is vital as peri-operative measures such as placement of ureteric stents and insertion of occlusion balloons in the pelvic vessels may reduce maternal morbidity. However, such interventions risk significant maternal morbidity such as arterial emboli from balloon occlusion of pelvic vessels and bladder rupture from ureteric stent insertion. Consequently, careful risk assessment must be undertaken regarding the potential benefit of any such adjuncts on a case by case basis. This requires consideration from previous experience, communication and excellent MD team-working.

The National Patient Safety Agency (NPSA) recommends that cases where AIP is suspected, and

therefore major post-partum haemorrhage (PPH) likely, that the management protocol should include the use of cell salvage.

4. Outcomes and Applicable Quality Standards

4.1 Quality Statement – Aims of Service

The aims of the service are to:

To accurately diagnose AIP and determine the clinical risk it poses.

To maximise safety for the mother by providing high quality specialist multidisciplinary care for the delivery of women at high risk of AIP. This involves:

- Preventing avoidable deaths in a population at very high risk of mortality
- Minimising ITU admission and length of stay in ITU
- Reducing blood product administration
- Reducing the risk of severe maternal morbidity such as cardiac arrest, fistula formation and lower urinary tract trauma
- Reducing risk of unnecessary surgical procedures including vertical abdominal incision and hysterectomy
- Reducing the risk of iatrogenic injury to women from false positive diagnoses

To improve safety for the baby by minimising iatrogenic premature delivery (through experienced decision making).

To ensure that the quality of the care provided is nationally monitored and subject to a process of continued improvement (through a national dashboard).

To participate in national data collection to improve understanding to allow optimisation of outcomes.

Domain 1	Preventing people from dying prematurely	
Domain 2	Enhancing quality of life for people with long-term conditions	
Domain 3	Helping people to recover from episodes of ill-health or following injury	
Domain 4	Ensuring people have a positive experience of care	
Domain 5	Treating and caring for people in safe environment and protecting them from avoidable harm	

4.2 Indicators Include:

No.	Indicator	Data source	Domain(s)	CQC Key Question
Clinical Outcomes				
	Number of referrals	Provider	2,3,5	effective
	Number of patients referred with high risk factors of AIP	Provider	2,3,5	effective
	Number of patients with high risk AIP delivered at the centre	Provider	2,3,5	effective
	Mortality rates	Provider	2,3,5	effective
	% patients having hysterectomy	Provider	2,3,5	effective
	% patients with lower urinary tract trauma	Provider	2,3,5	effective
	Neonatal/perinatal mortality	Provider	2,3,5	effective
	% patients admitted to ITU	Provider	2,3,5	effective
	Length of stay in ITU	Provider	2,3,5	effective
	Overall length of stay	Provider	2,3,5	effective
	% patients with placenta insitu	Provider	2,3,5	effective
Patient Outcomes				
	Patients and carers are provided with information	Self-declaration	4	caring, responsive
	Feedback from patients is reviewed and informs service development	Self-declaration	4	caring, responsive

	and improvements			
	Structure & Process			
	There is a fetal medicine lead	Self-declaration	2,3,5	Well led
	There is a specialist team	Self-declaration	2,3,5	effective, safe
	There is multidisciplinary involvement in delivery planning	Self-declaration	2,3,5	effective, safe
	There is a 24/7 consultant obstetrician rota	Self-declaration	2,3,5	effective, safe
	There is a 24/7 consultant gynaecology/ gynaecology-oncology rota	Self-declaration	2,3,5	effective, safe
	There is a 24/7 consultant obstetric anaesthetist rota	Self-declaration	2,3,5	effective, safe
	There is a 24/7 rota for interventional radiology	Self-declaration	2,3,5	effective, safe
	There is 24/7 consultant urology rota	Self-declaration	2,3,5	effective, safe
	There is a major obstetric haemorrhage protocol and haematology advice	Self-declaration	2,3,5	effective, safe
	There are clinical guidelines in place	Self-declaration	2,3,5	effective, safe
	There are pathways in place	Self-declaration	2,3,5	effective, safe
<p>Detailed definitions of indicators, setting out how they will be measured, is included in schedule 6.</p> <p>4.3 Commissioned providers are required to participate in annual quality assurance and collect and submit data to support the assessment of compliance with the service specification as set out in Schedule 4A-C</p> <p>4.4 Applicable CQUIN goals are set out in Schedule 4D</p>				
5. Applicable Service Standards				
<p>5.1 Applicable Obligatory National Standards</p> <p>NICE Guidance on Caesarean Section (http://www.nice.org.uk/nicemedia/live/13620/57163/57163.pdf)</p> <p>5.2 Other Applicable National Standards to be met by Commissioned Providers Royal College of Obstetricians and Gynaecologists (RCOG) Guidance (http://www.rcog.org.uk/womens-health/clinical-guidance/placenta-praevia-and-placenta-praevia-accreta-diagnosis-and-management)</p>				

6. Designated Providers (if applicable)

Please only set out a restrictive list of providers (using full trust or other full organizational names) if there has been a formal selection process which has resulted in a limited range of commissioned providers. Otherwise please mark as 'not applicable'

7. Abbreviation and Acronyms Explained

The following abbreviations and acronyms have been used in this document:

Abnormally invasive placenta (AIP)

Multi- Disciplinary Team (MDT)

Magnetic Resonance Imaging (MRI)

Massive Obstetric Haemorrhage (MOH)

Caesarean Delivery (CD)

UK Obstetric Surveillance System (UKOSS)

Confidential Enquiry Into Maternal And Child Health (CEMACH)

National Patient Safety Agency (NPSA)

Post- partum Haemorrhage (PPH)

Intensive therapy unit (ITU)

Date published: <insert publication date>