

Community Growth Scans

Service development project

Reference documents: www.pi.nhs.uk/cogs



- ❖ The main purpose of this initiative is to enhance ultrasound services by training midwives through short courses to provide a community based resource for 3rd trimester growth scans.
- ❖ As a result, we expect a significant increase in the antenatal detection of fetal growth restriction, which will allow referral for further investigation to determine the safest time of delivery, to ensure that babies are born in the best possible condition.

1. Background

- 1.1. Stillbirth is the biggest contributor to perinatal mortality. The single largest category of conditions relevant to stillbirths is fetal growth restriction (FGR). The recent B&BC Confidential Enquiries have found that 86% of stillbirths with fetal growth restriction are Grade 2 or 3, i.e. potentially or likely to be avoidable. Central to prevention is the antenatal detection of fetal growth restriction, to allow further investigation and timely delivery of the at-risk baby.
- 1.2. Routine data collection and focussed audits have shown that over 80% of babies who are at risk because of growth restriction are not recognised as such antenatally with the current level of service. Two main reasons have emerged:
 - Not all staff follow standardised, evidence based protocols for growth screening according to NICE and RCOG recommendations and agreed regional policy; this problem is being addressed with special training and accreditation workshops at the Perinatal Institute and locally within maternity units.
 - Current provision of ultrasound services for fetal growth assessment is insufficient, due to endemic shortages of staff, posts or equipment. These shortages are felt to have impacted on clinical protocols as well as day to day practice. **This is the main bottleneck in the care pathway, and the matter which is being addressed with this project.**

2. Scanning resources needed

- 2.1 Fetal growth is measured in the 3rd trimester of pregnancy (in contrast to 1st trimester dating and nuchal translucency measurement for chromosomal anomalies such as Downs syndrome, and 2nd trimester scanning for structural anomalies such as spina bifida).
- 2.2 Compared to detailed ultrasound for fetal anomalies, growth scanning
 - takes less time - ca 15 minutes, including preparation and discussion of results;
 - requires less expensive ultrasound equipment, and can be done using portable machines;
 - requires less training, and midwives can be taught through short courses available in Birmingham - incl. 5 study days theory followed by 100 hours scanning in their own unit over a 4-5 month period.
- 2.3. WMPI and the Regional Ultrasound Group have developed best practice estimates for third trimester scanning needs. Referrals fall mostly into the following 3 categories:

	Indication for growth scan	Approx. proportion of pregnancies	Comment	Est. workload: scans / 1000 pregnancies
A	When concerns emerge during pregnancy on the basis of fundal height measurement suggesting a small baby or slow growth (incl true +ve and false +ve referrals)	20 %	Most women in this category require only a single scan and reassurance; if true+ve, referral to ultrasound unit recommended	260
B	Serial assessment by scan, when fundal height measurement inaccurate (BMI >35, uterine fibroids); or when pregnancy is high risk on basis of past history of fetal growth restriction, pre-eclampsia, etc.	25 %	Require 'serial' (2-3 weekly) assessment in third trimester of pregnancy, as used in fundal height measurement protocols	1141
C	Mothers presenting with decreased fetal movement, a symptom associated with increased risk of FGR and stillbirth	10 %	Usually single scan & reassurance, or referral for further investigation	76

TOTAL 1477

- 2.4. The 1477 scans required per 1000 maternities represent an increase of 50% over current provision of growth scans, based on our 2007 regional ultrasound survey. The aim is for about three-quarters to be done in the community = 1108 scans, with the remaining quarter by the ultrasound department as a continuation of the current growth scanning service, incl. assessment of referrals from the community.

3. Staffing and costs

- 3.1. 1108 scans @ 15 minutes = 277 hours scanning = **0.18 WTE** for 1000 maternities (based on 1 WTE=35 hours per week, 1 year = 44 working weeks = 1540 hours per year).
- 3.2. WTE salary Midwife Band 7 = £ 36,000 plus 25% on-cost £ 45,000
 Non-pay: portable scanner rental; admin support (appointments) £ 5,000
 Total: 1 WTE midwife scanner with equipment & support £ 50,000

Cost: 0.18 WTE @ 50,000 → £ 9000 per 1000 maternities; = £ 9 each

- 3.3. Pro rata costs by PCT: Birmingham (3), Sandwell, Solihull

PCT	Births (2007 rates)	Community scans	Scanning hours	WTE Scanning	Number of staff *	Cost (£)
BEN	6782	7512	1878	1.2	6	61,038
HOB	5713	6328	1582	1.0	5	51,517
SOUTH	4603	5099	1275	0.8	4	41,427
SANDWELL	4434	4911	1228	0.8	4	39,906
SOLIHULL	2160	2393	598	0.4	2	19,440

*It is proposed that a full time community midwife scans for 1 day or 2 sessions per week = 0.2 WTE

- Thus each PCT would have a small team based at one or two locations, e.g. Children's Centres

4. Proposed timetable - year 1

- Feb -March 09 - internal adverts, interviews (21 appointments); agree protocols/care pathways
 April - Sept 09 - ultrasound scan training: 5 study days theory at Birmingham City University, and 100 hours scanning (6 h/week x 17 weeks) in respective ultrasound departments
 Sept/Oct 09 - commencement of community growth scanning service
 Jan 2010 - interim report by WMPI to inform commissioning for 2010/11

- **WMPI to help co-ordinate training, standardise care pathways, collect data and issue reports**
 ➤ **Project to report to Pan-Birmingham, Solihull and Sandwell Maternity Commissioning Group**

5. Potential risks/objections		Comment	
5.1	Midwives may not be available due to staff shortages	Project requires less than 0.2 WTE staff/1000 births - a small proportion of the community workforce, which is about 10 WTE / 1000 births.	
5.2	Midwives may not be interested	This is in fact a sought after opportunity for individual development and up-skilling. It may raise midwifery profile and aid with recruitment / retention	
5.3	Midwives won't be able to scan / perform this demanding service	There is ample precedent of effective, midwifery run scanning services in the NHS, incl in the West Midlands	
5.4	San estimates too conservative; availability will increase demand	We have used generous estimates which were based on local surveys; we will develop clear protocols and monitor strict adherence	
5.5	Limited capacity within ultrasound departments to train midwives	The training is to be staggered over 5 month period; ultrasound departments will be keen to train midwives so that they can assist with their service	
5.6	Detection of growth restriction will increase rate of intervention including caesarean section rates	Most babies are not pathologically small and mothers can be reassured. Following further investigation, only a small proportion would need iatrogenic delivery, and this would have an insignificant effect on overall CS rates.	
5.7	Detection of fetal growth restriction will increase prematurity / neonatal morbidity	Most affected babies are mature enough to not need neonatal services if delivered in good condition. Cochrane reviews have found that appropriate investigations reduce stillbirths without increasing neonatal deaths	
5.8	There are better ways to spend this sort of money	This is an intervention with the highest likely impact on perinatal mortality, and is supported by RCOG guidelines, systematic reviews and local evidence	
6. Benefits		Current status	Expected
6.1	Improved detection of fetal growth restriction	Less than 20% currently recognised antenatally	At least doubling of antenatal detection rate to 40+% by 2010
6.2	Reduction in avoidable, 'mature' stillbirths	Approx. 50 avoidable stillbirths per annum across BSS	Reduced by at least 20%, probably more; → 10+ fewer stillbirths year on year
6.3	Forewarning of reduced fetal reserve (can lead to distress during labour)	Perinatal morbidity & mortality frequently associated with FGR, and mostly goes unrecognised	Improved awareness of diminished fetal reserve will lead to safer intrapartum care. Also likely to reduce litigation re management of labour.
6.4	Maternal consideration	Scan referral requires urgent travel to hospital for a single test which is usually normal	Community clinics (1-2 per PCT) will increase maternal engagement, bring investigation closer, reduce anxiety, produce results quicker
6.5	Community midwifery practice	Current hurdles to refer when in doubt; and/or concern about adding to workload of ultrasound dept.	Community based unit run by midwifery colleagues is expected to lower threshold for referral and improve feedback
6.6	Community midwifery practice	Work is often considered stressful and unrewarding	Increased ability to deliver care in community will improve standing of community based midwifery
6.7	Ultrasound department within Trust	Under-resourced, often difficult to cope with number of referrals; sometimes resistant to accept	Referrals fewer and more relevant, freeing up time for other services – e.g. detection of anomalies in 1 st and 2 nd trimester
6.8	Protocols	Often cut corners to accommodate endemic ultrasound shortages	Protocols will be able to contain 'best practice' pathways for safe fetal surveillance