SASUOG

South African Society for Ultrasound in Obstetrics and Gynaecology

SASUOG position statement on performing 3D / 4D ultrasound in pregnancy

Introduction:

The benefit of increasing maternal bonding with the use of 3D /4D ultrasound examinations has been demonstrated (1), but there are concerns about false reassurances and incorrect diagnosis if these scans are done for non-medical purposes. We subscribe to the Safety Statement of the International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) that ultrasound scans should not be undertaken solely for non-diagnostic purposes in these settings. (2)

Recommendations for sonographers and other healthcare workers:

We therefore urge sonographers and other healthcare workers undertaking pregnancy ultrasound to ensure that they:

1. Are properly trained, accredited and skilled in performing obstetrical ultrasound,
2. Do not do 3D/4D ultrasound examinations in isolation, but as part of at least a "level I" obstetrical ultrasound,
3. Are medicolegally insured, and
4. Provide feedback to the managing clinician according to the SASUOG guidelines (appendix 1).

Recommendations for obstetricians and other clinicians:

For proper clinical care and to minimize the risk of litigation, we urge clinicians managing pregnant women to refer pregnant patients to sonographers for ultrasound evaluation in pregnancy according to the guidelines of SASUOG (appendix 2)

Clinicians should also ensure that sonographers to whom they refer meet the four requirements listed above.

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Bibliography

1. de Jong-Pleij EAP, Ribbert LSM, Pistorius LR, Tromp E, Mulder EJH, Bilardo CM. Three-dimensional ultrasound and maternal bonding, a third trimester study and a review. Prenat Diagn. 2013;33(1).

2. ISUOG statement on the non-diagnostic use of ultrasound in pregnancy. 2021;

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Guideline for feedback by sonographers to referring clinicians

Background

Certain patients who have a routine scan by a sonographer may have histories or findings that require input from a medical practitioner with scanning or advanced fetal medicine expertise. This guideline indicates in which cases the sonographer should make this known to the referring clinician as the required input is out of scope of practice of a sonographer. The referring doctor will then decide whether he/she him/herself can deal with such specific issue, or whether the patient needs to be referred to a level III scanning unit.

When to provide feedback to referring clinician

At 11-14 weeks: Patient to be urgently discussed with, or referred back to, the referring clinician as consultation with a fetal medicine expert may be urgent

- Screen high (>1:300) or intermediate (1:300 – 1:1 000) risk for the common trisomies following combined or NT screening;
- Nuchal translucency > 3.5mm;
- Suspected fetal anomaly incl. ascites or hydrops;
- Monochorionic twin pregnancy (if all is well at 11 – 14 weeks, referral at 16 weeks);
- Dichorionic twin pregnancy with clear discrepancy in fetal sizes;
- Specific maternal infections (Parvovirus B19, Rubella, Coxsackie, Toxoplasmosis, CMV);
- Family history of a first degree relative with a congenital defect or genetic disorder;
- Three or more first trimester miscarriages.
- Significant titers of anti-red cell antibodies

At 11-14 weeks: Suggest to the referring clinician that the detail scan (18-23 weeks) is rather booked with a medical practitioner than a sonographer

- Nuchal translucency > 95th centile;
- Abnormal ductus venosus flow;
- Chromosomal markers present i.e. single umbilical artery, polydactyly etc;
- Pre-existing metabolic disease (Diabetes, Phenylketonuria);
- Teratogen exposure (Retinoids, Phenytoin, Carbamazepine, Sodium valproate, Lithium carbonate, MTX);

- One or more second or third trimester losses (unless the cause is known and the risk will be managed by referring clinician).

At 18 – 22 weeks: Patient to be urgently discussed with, or referred back to, the referring clinician as consultation with a fetal medicine expert may be urgent

- Screen high (>1:300) or intermediate (1:300 – 1:1 000) for the common trisomies;
- Suspected fetal anomaly;
- Nuchal edema (> 6mm);
- Intra-fetal calcifications other than intracardiac echogenic focus;
- Echogenic bowel;
- Ventriculomegaly (> 10mm);
- Monochorionic twin pregnancy or unknown chorionicity;
- Dichorionic twin pregnancy with discordant growth > 20%;
- Placental abnormalities (hydropic, "jelly-like", "moth-eaten", tumour);
- Olighohydramnios (Deepest pool < 2cm);
- Polyhydramnios (Deepest pool > 8cm).

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Guideline for ultrasound referrals by general obstetricians

Background

To optimise the care of pregnant women, it makes sense to offer scanning by a sonographer only if the pregnancy does not have any risk factors that require medical expertise and the scan is unlikely to reveal findings that require further testing or in-depth counselling outside a sonographer's scope of practice. Such cases are best scanned primarily by a medical practitioner with fetal medicine expertise to avoid a subsequent referral from the sonographer to the expert, at significant additional cost to the parents.

This is just a guideline and the application thereof will understandably vary according to the referring obstetrician's expertise in dealing with these risk factors or with any abnormal findings identified by the sonographer and also according to the accessibility of a level III unit.

When to refer to a Level III scanning unit rather than to a sonographer

Maternal indications

- Family history: First degree relative with congenital defect
- Pre-existing metabolic disease (e.g. Diabetes, Phenylketonuria)
- Maternal infections (Cytomegalovirus, Parvovirus B19, Rubella, Coxsackie, Toxoplasmosis)
- Teratogen exposure (Retinoids, Phenytoin, Carbamazepine, Valproic acid, Lithium carbonate, MTX)
- Maternal antibodies (Anti-Ro (SSA), Anti-La (SSB), anti-TSH receptor, anti-red cell, anti-platelet)
- Maternal age > 40 years and/or patient requests invasive genetic testing
- Three or more first trimester miscarriages
- One or more second or third trimester losses
- Suspicious maternal adnexal mass

Fetal indications

- Suspected fetal anomaly
- Visibly enlarged nuchal translucency or cystic hygroma

- Screening for the common aneuploidies: parents not satisfied with the screening results (1st or 2nd trimester) and would consider invasive testing
- Low anterior placenta with previous caesarean section
- Monochorionic twin pregnancy
- Complicated dichorionic twin pregnancy (defined as: discordant growth > 25% as percentage of larger twin; single intra-uterine demise after first trimester)
- Fetal or placental tumour
- Fetal cardiac rate or rhythm disturbances (Persistent bradycardia / tachycardia / irregular heart rhythm)

Disclaimer:

This document has been developed by interdisciplinary healthcare teams utilising the best available evidence and resources believed to be accurate and current at the time of release. They are intended to provide general advice and guidance on which to base clinical decisions. SASUOG takes no responsibility for matters arising from changed circumstances or information that may have become available after issued. They must not be solely relied on or used as a substitute for assessing the individual needs of each patient.

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