This guideline was peer-reviewed by the principal authors in September 2016 and has been reaffirmed for continued use until further notice.

No. 260 (Reaffirmed October 2017)

No. 260-Ultrasound in Twin Pregnancies

This Clinical Practice Guideline has been prepared by the Diagnostic Imaging Committee, reviewed by the Genetics Committee and the Maternal Fetal Medicine Committee, and approved by the Executive and Council of The Society of Obstetricians and Gynaecologists of Canada.

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Disclosure statements have been received from all members of the committees.

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Key Words: Ultrasound, twins, antenatal, prematurity, cervix, amniotic fluid

Abstract

Objective: To review the literature with respect to the use of diagnostic ultrasound in the management of twin pregnancies. To make recommendations for the best use of ultrasound in twin pregnancies.

Outcomes: Reduction in perinatal mortality and morbidity and short- and long-term neonatal morbidity in twin pregnancies. Optimization of ultrasound use in twin pregnancies.

Evidence: Published literature was retrieved through searches of PubMed and the Cochrane Library in 2008 and 2009 using appropriate controlled vocabulary (e.g., twin, ultrasound, cervix, prematurity) and key words (e.g., acardiac, twin, reversed arterial perfusion, twin-to-twin transfusion syndrome, amniotic fluid). Results were restricted to systematic reviews, randomized control trials/controlled clinical trials, and observational studies. There were no date restrictions. Studies were restricted to those with available English or French abstracts or text. Searches were updated on a regular basis and incorporated into the guideline to September 2009. Grey (unpublished) literature was identified through searching the websites of health technology assessment and health technology assessment-related agencies, clinical practice guideline collections, clinical trial registries, and national and international medical specialty societies .

Values: The evidence collected was reviewed by the Diagnostic Imaging Committee of the Society of Obstetricians and Gynaecologists of Canada, with input from members of the Maternal Fetal Medicine Committee and the Genetics Committee of the SOGC. The recommendations were made according to the

J Obstet Gynaecol Can 2017;39(10):e398–e411

https://doi.org/10.1016/j.jogc.2017.08.014

Table 1. Key to evidence statements and grading of recommendations, using the ranking of the Canadian Task Force on Preventive Health Care

Quality of evidence assessment[a]	Classification of recommendations[b]
I: Evidence obtained from at least one properly randomized controlled trial	A. There is good evidence to recommend the clinical preventive action
II-1: Evidence from well-designed controlled trials without randomization	B There is fair evidence to recommend the clinical preventive action
II-2: Evidence from well–designed cohort (prospective or retrospective) or case–control studies, preferably from more than one centre or research group	C The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making
II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category	D. There is fair evidence to recommend against the clinical preventive action E. There is good evidence to recommend against the clinical preventive action
III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees	L There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making

[a]The quality of evidence reported in these guidelines has been adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.[1]

[b]Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in The Canadian Task Force on Preventive Health Care.[1]

guidelines developed by The Canadian Task Force on Preventive Health Care (Table 1).

Benefits, harms, and costs: The benefit expected from this guideline is facilitation and optimization of the use of ultrasound in twin pregnancy.

Summary Statements:

1. There are insufficient data to make recommendations on repeat anatomical assessments in twin pregnancies. Therefore, a complete anatomical survey at each scan may not be needed following a complete and normal assessment (III).
2. There are insufficient data to recommend a routine preterm labour surveillance protocol in terms of frequency, timing, and optimal cervical length thresholds (II-2).
3. Singleton growth curves currently provide the best predictors of adverse outcome in twins and may be used for evaluating growth abnormalities (III)
4. It is suggested that growth discordance be defined using either a difference (20 mm) in absolute measurement in abdominal circumference or a difference of 20% in ultrasound-derived estimated fetal weight (II-2).
5. Although there is insufficient evidence to recommend a specific schedule for ultrasound assessment of twin gestation, most experts recommend serial ultrasound assessment every 2 to 3 weeks, starting at 16 weeks of gestation for monochorionic pregnancies and every 3 to 4 weeks, starting from the anatomy scan (18 to 22 weeks) for dichorionic pregnancies (II-1).
6. Umbilical artery Doppler may be useful in the surveillance of twin gestations when there are complications involving the placental circulation or fetal hemodynamic physiology (II-2).
7. Although many methods of evaluating the level of amniotic fluid in twins (deepest vertical pocket, single pocket, amniotic fluid index) have been described, there is not enough evidence to suggest that one method is more predictive than the others of adverse pregnancy outcome (II-3).
8. Referral to an appropriate high-risk pregnancy centre is indicated when complications unique to twins are suspected on ultrasound. (II-2). These complications include:
    1. Twin-to-twin transfusion syndrome
    2. Monoamniotic twins gestation
    3. Conjoined twins
    4. Twin reversed arterial perfusion sequence
    5. Single fetal death in the second or third trimester
    6. Growth discordance in monochorionic twins.

Recommendations:

1. All patients who are suspected to have a twin pregnancy on first trimester physical examination or who are at risk (e.g., pregnancies resulting from assisted reproductive technologies) should have first trimester ultrasound performed (II-2A).
2. Every attempt should be made to determine and report amnionicity and chorionicity when a twin pregnancy is identified (II-2A).
3. Although the accuracy in confirmation of gestational age at the first and second trimester is comparable, dating should be done with first trimester ultrasound (II-2A).
4. Beyond the first trimester, it is suggested that a combination of parameters rather than a single parameter should be used to confirm gestational age (II-2C).
5. When twin pregnancy is the result of in vitro fertilization, accurate determination of gestational age should be made from the date of embryo transfer (II-1A).
6. There is insufficient evidence to make a recommendation of which fetus (when discordant for size) to use to date a twin pregnancy. However, to avoid missing a situation of early intrauterine growth restriction in one twin, most experts agree that the clinician may consider dating pregnancy using the larger fetus (III-C).
7. In twin pregnancies, aneuploidy screening using nuchal transluscency measurements should be offered (II-2B).
8. Detailed ultrasound examination to screen for fetal anomalies should be offered, preferably between 18 and 22 weeks' gestation, in all twin pregnancies (II-2B).
9. When ultrasound is used to screen for preterm birth in a twin gestation, endovaginal ultrasound measurement of the cervical length should be performed (II-2A).
10. Increased fetal surveillance should be considered when there is either growth restriction diagnosed in one twin or significant growth discordance (II-2A).
11. Umbilical artery Doppler should not be routinely offered in uncomplicated twin pregnancies (I-E).
12. For defining oligohydramnios and polyhydramnios, the ultrasonographer should use the deepest vertical pocket in either sac: oligohydramnios when < 2 cm and polyhydramnios when >8 cm (II-2B).