

PRESS RELEASE

Comparison of basic and detailed mid-trimester morphology scan and choice

(Hong Kong, 16 April 2024) – **The incidence of fetal abnormalities is 2% to 3%. The mid-trimester morphology scan (MTMS) at around 20 weeks' gestation has been the standard of care for several decades, allowing prenatal detection of fetal abnormalities. In recent years, updated guidelines have been published by some international professional societies due to increasing clinical need, expectations of pregnant patients, expertise of operators, and advances in ultrasound technology. An article introducing the relevant updates and comparing the two types of MTMS, namely, basic and detailed, has been published in the *Hong Kong Medical Journal* to help pregnant women decide on the most suitable scan to be used.**

Compared with the basic MTMS which describes the minimum requirements, a detailed MTMS implies a more detailed examination of fetal structures including brain, heart, face, abdomen, and limbs. A basic MTMS is used in pregnant patients who do not have any maternal, fetal, or obstetric risk factors, while a detailed MTMS provides a comprehensive examination in those with known risk factors including a known or suspected fetal anatomic abnormality, known fetal growth disorder, genetic abnormality, or increased risk for a fetal anatomic or genetic abnormality. Common examples leading to high risk include maternal age ≥ 35 years, gestational diabetes, conception via assisted reproductive technology, obesity with body mass index ≥ 30 kg/m², fetal exposure to teratogens, and thick nuchal translucency ≥ 3 mm. If the patient already has a child with a brain or heart anomaly, a detailed examination of the fetal brain or heart should be performed as appropriate.

Whether certain fetal structures need to be examined depends on the indication for the ultrasound examination and the findings during it. For example, examination of the palate is required when a cleft lip is found. The majority of these fetal structures can be evaluated by two-dimensional ultrasound, though three-dimensional ultrasound may provide additional findings in the evaluation of palate, ear, and ribs.

Even when a detailed MTMS shows normal findings, an additional scan may be required in the third trimester of some complex pregnancies to detect late-onset fetal abnormalities, such as microcephaly, ventriculomegaly, or coarctation of aorta. There are limitations of a basic or a detailed MTMS in the detection of fetal abnormalities.

The article “Basic or detailed morphology scan in mid-trimester?” was published in the *Hong Kong Medical Journal*. <https://doi.org/10.12809/hkmj2310772>

新聞稿

比較及選擇基本與詳細結構性超聲波

（香港，2024年4月16日） — 胎兒畸形的發生率為2%至3%。於懷孕第20週左右進行的妊娠中期結構性超聲波數十年來一直是產前護理的標準，用於檢測胎兒畸形。近年，由於臨床需求和孕婦期望增加，加上超聲波科技和操作人員專業技術知識進步，一些國際專業超聲波協會更新了結構性超聲波的指引。《香港醫學雜誌》發表文章，介紹基本與詳細結構性超聲波及相關更新，以助孕婦選擇合適的檢查。

與描述最低要求的基本結構性超聲波相比，詳細結構性超聲波對胎兒結構進行更詳細的檢查，包括大腦、心臟、臉部、腹部和四肢。基本結構性超聲波用於沒有風險因素的孕婦，詳細結構性超聲波則為具有已知風險因素的孕婦提供較全面的胎兒結構檢查。風險因素包括已知或懷疑的胎兒結構異常、已知的生長受限、基因異常或較高風險的胎兒結構異常或基因異常等。造成高風險的常見例子包括高齡懷孕（≥35歲）、妊娠糖尿病、輔助生殖技術受孕、肥胖（體重指標≥30 kg/m²）、服用致畸的藥物及胎兒頸皮厚（≥3毫米）。如果孕婦已育有先天性大腦異常或心臟病的孩子，則應對胎兒大腦或心臟進行詳細結構性超聲波檢查。

是否需要檢查某些胎兒結構取決於超聲波檢查的原因和結果，例如當發現胎兒唇裂時，便需要檢查上顎是否有顎裂。大多數胎兒結構可以透過二維超聲波進行檢測，三維超聲波則可以在檢測上顎、耳朵和肋骨時提供額外評估，幫助診斷胎兒畸形。

即使詳細結構性超聲波顯示正常結果，在某些複雜懷孕的情況下，可能還需要在懷孕晚期進行額外超聲波掃描，以檢測遲發性胎兒異常，例如小頭畸形、腦室擴大或主動脈縮窄。基本或詳細結構性超聲波在檢測胎兒畸形都有局限性。

詳細內容可參閱原文《基本還是詳細結構性超聲波？》。

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