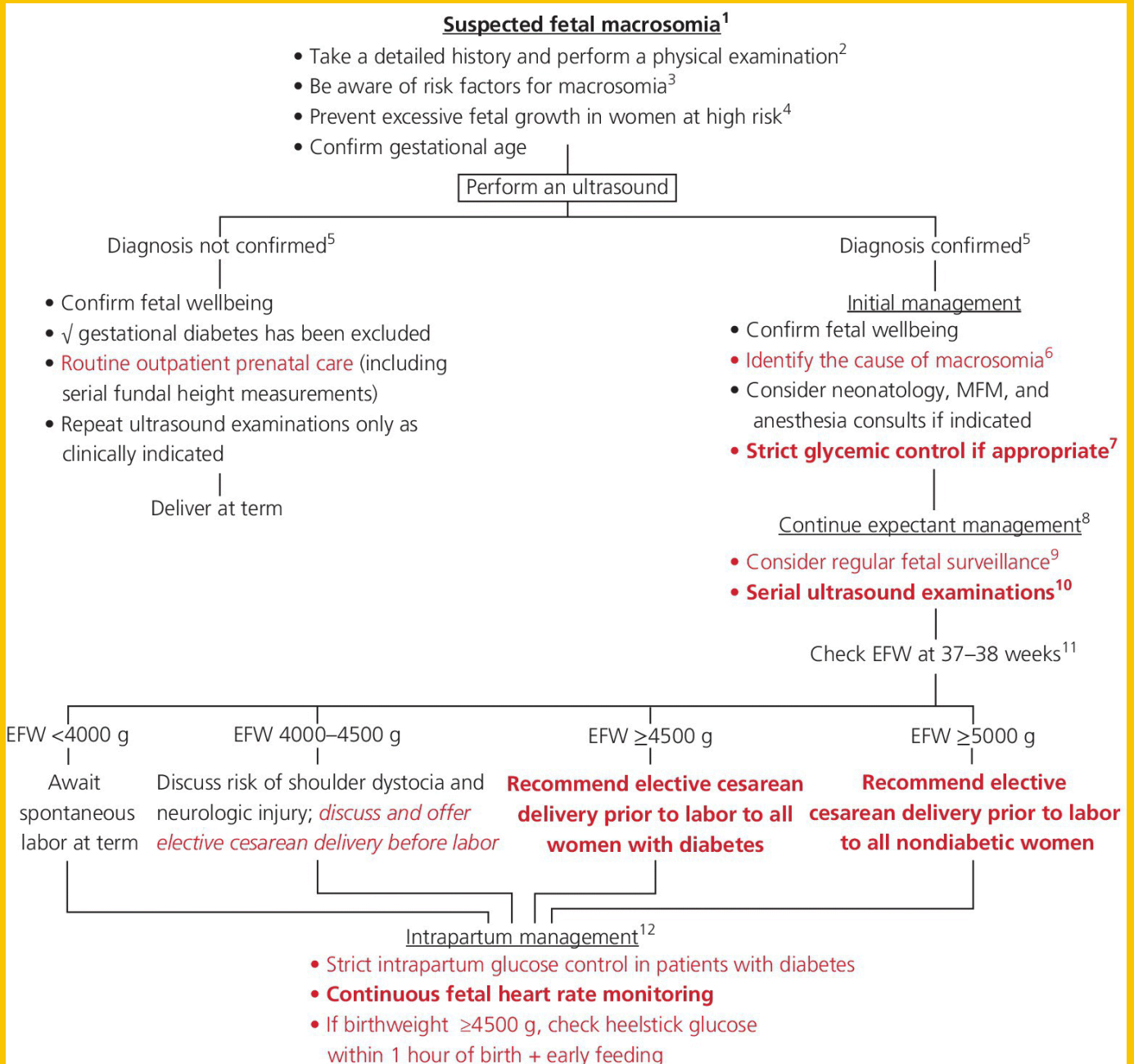




Learn simply

Macrosomia

Passion profession same



1. Fetal macrosomia is defined most commonly as an estimated fetal weight (EFW) - not birth weight - of ≥ 4500 g (10 lb 8 oz). It is a single cut-off independent of gestational age or diabetic status. It should be distinguished from "large for gestational age" (LGA), which refers to a fetus with an EFW of > 90 th percentile for gestational age.
2. Macrosomic fetuses have an increased risk of intrauterine and neonatal death as well as birth trauma, especially shoulder dystocia and resultant neurologic (brachial plexus) injury. Other neonatal complications include hypoglycemia, polycythemia, hypocalcemia, and jaundice. In developing countries, 5% of infants weigh >4000 g at delivery and 0.5% weigh >4500 g.
3. The clinical diagnosis of fetal macrosomia is difficult, and physical examination alone will fail to identify over 50% of such fetuses. If the fundal height measurement is significantly greater than expected ($>3-4$ cm for gestational age), an ultrasound examination should be considered.



1. Although a number of factors have been associated with fetal macrosomia, most women with risk factors have normal-weight babies.
2. Risk factors include:
 - (i) maternal diabetes (seen in 35-40% of macrosomic infants);
 - (ii) post-term pregnancy (10-20%) - of all pregnancies continuing beyond 42 weeks' gestation, 2.5% are complicated by macrosomia;
 - (iii) maternal obesity defined as a pre-pregnancy BMI >30 kg/m² (10-20%) - moreover, clinical and ultrasound estimation of fetal weight is far more difficult and less accurate in obese women; and
 - (iv) other risk factors (such as multiparity, a prior macrosomic infant, a male infant, increased maternal height, advanced maternal age, and Beckwith-Wiedemann syndrome (pancreatic islet cell hyperplasia)).
3. Meticulous glycemic control throughout pregnancy in women with pregestational or gestational diabetes mellitus (GDM) can effectively reduce the incidence of fetal macrosomia.
4. Clinical estimation of fetal weight based on fundal height measurements and abdominal palpation (Leopold's maneuvers) is largely subjective, poorly reproducible, and depends on the experience of the obstetric care provider. It is especially unreliable in women with uterine fibroids and obesity, and in multiple pregnancies.
5. For all these reasons, ultrasound is often used to estimate fetal weight. It should be noted, however, that ultrasound is accurate only to within 15-20% of actual fetal weight. Indeed, studies have shown that ultrasound is no more accurate in predicting actual fetal weight than a clinical examination by an experienced obstetrician or than the estimate of the mother, providing she has had a previous child.



1. Most cases of macrosomia have no known cause. A detailed perinatal ultrasound should be performed to confirm gestational age, exclude other causes of a large fundal height (twins, fibroids, polyhydramnios), and to identify any fetal structural anomalies. In all cases, GDM should be excluded.
2. In women with GDM, the goal of antepartum management is to maintain strict glycemic control throughout gestation, defined as fasting blood glucose <95 mg/dL and 1 hour postprandial <140 mg/dL. This is typically achieved through a diabetic diet, moderate exercise, four times daily glucose monitoring, and additional treatment (oral hypoglycemic agents, insulin) as needed.
3. Because of the association between fetal macrosomia and birth trauma as well as peripartum maternal complications (including cesarean delivery, postpartum hemorrhage, severe perineal trauma, and puerperal infection), early induction of labor is often recommended with a view to maximizing the probability of a vaginal delivery.
4. However, induction of labor for so-called "impending macrosomia" does not decrease the cesarean delivery rate. As such, this approach should not be encouraged.



1. Although the benefit is unclear in the absence of diabetes, most authorities recommend regular fetal surveillance in pregnancies complicated by fetal macrosomia, including daily kickcounts and weekly or twice-weekly nonstress testing and/or biophysical profile.
2. Serial growth scans of the fetus should be performed every 2-3 weeks. More regular ultrasound examinations may be indicated to document amniotic fluid volume.
3. To prevent birth trauma, elective (prophylactic) cesarean delivery should be offered before the onset of labor at or after 39 weeks to diabetic women with an EFW \geq 4500 g and nondiabetic women with an EFW \geq 5000 g. An elective delivery prior to 39 weeks requires confirmation of fetal lung maturity.
4. Because of the risk of shoulder dystocia, attempted vaginal delivery of a macrosomic infant should take place in a controlled fashion, with immediate access to anesthesia staff and a neonatal resuscitation team. It may be prudent to avoid assisted vaginal delivery in this setting.

