Advanced maternal age (≥ 40 years)

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1. Quick Reference Guide

2. Indications

2.1 Background

The incidence of mothers aged 40 years and over has increased over the last few years. There has been a 70% increase in the birth rate over the last decade amongst those aged 40 - 44 years. This age group, however, accounts for less than 5% of the overall age group in pregnancy. Lifestyle change and assisted conception accounts for this demographic shift.
There are important implications for both the mother and fetus. This guideline sets out suggestions for pre-conceptual care, antenatal care, induction of labour and intrapartum care.

Complications associated with advanced maternal age

Maternal	Fetal
Ectopic pregnancy Gestational trophoblastic disease Pre-eclampsia Gestational diabetes Myocardial infarction Cerebro-vascular accident Ante-/postpartum hemorrhage Induction of labour Operative vaginal delivery Caesarean - elective & emergency Venous thromboembolism (VTE) Increased risk of stillbirth with postmaturity	Miscarriage Multiple pregnancy (DCDA) Downs syndrome IUGR Prematurity

Increased mortality	

2.2 Aim/purpose

2.3 Patient/client group
All pregnant women aged 40 years and over at estimated date of delivery booked for care at Salisbury Hospital Foundation Trust

2.4 Exceptions/ contraindications
Birth outside of guidance plan which has been approved

3. Clinical Management

3.1 Staff & equipment
All maternity staff to follow this guideline

3.2 Method/procedure

3.2.1 Antenatal care

Early pregnancy - There is a higher incidence of ectopic pregnancy, multiple pregnancy and gestational trophoblastic disease in women > 40 years old. This can be screened for with USS in women presenting in the first trimester.

Consultant-led care - Women should be booked under a named consultant following the booking visit and reviewed as early as possible in the antenatal clinic. The course of care may need to be individualised based on any pre-existing medical problems or concerns.

Pre-existing medical conditions (e.g. chronic hypertension, cardiac disease) - should be optimised and referral to the appropriate specialist made early. (see medical problems in pregnancy guideline)

Aneuploidy risk - Downs syndrome risk increases significantly over the age 40. Both serum and nuchal translucency screening should be offered and invasive prenatal testing such as chorionic villous sampling and amniocentesis discussed if the risk is < 1:150.

Maternal age	Downs syndrome risk (**Morris et al. 2003**)
25	1:1350
30	1:940
35	1:350
40	1:85

Aspirin - maternal age over 40 is classified as a moderate risk factor in accordance with the NICE guidance on 'hypertension in pregnancy'. Aspirin 150mg daily from 12 weeks until birth causes a 10% reduction in the risk of pre-eclampsia and preterm delivery if there are any other moderate or high risk factors. **(see hypertension in pregnancy guideline[1])**.

Chronic hypertension - see hypertension in pregnancy guideline.

Gestational diabetes – women over 40 may have increased insulin resistance and therefore are prone to the acquisition of gestational diabetes. NICE guidance does not support routine screening for gestational diabetes based on maternal age alone.

IUGR – There is an increased risk in this group and women > 40 at delivery will therefore have serial growth scans as per guidelines.

Thrombo-embolic risk - Age over 35 constitutes an intermediate risk factor for venous thrombo-embolism (VTE). Women should be repeatedly assessed for risk factors for VTE if they develop inter-current problems or require surgery or readmission in the puerperium.

3.2.3 Induction of Labour

Rates of stillbirth have an adjusted odds ratio of 2.4 at over 35 years of age, rising to 5.2 at 40 years, with a peak at 41 weeks of gestation[4]. In women over the age of 40, in this unit we offer an earlier induction of labour after 40 weeks to reduce the chance of stillbirth associated with an increased theoretical risk of placental insufficiency in this age group.

3.2.4 Intrapartum care

For those without any complicating medical conditions, who choose a spontaneous labour before 41 weeks, the option of a home birth should be at the discretion of the named community midwife.

Methods of fetal heart rate monitoring during labour should be determined by risk factors other than age. There is no evidence to suggest that continuous electronic monitoring is required for increased maternal age alone.

3.3 Potential complications / Risk Management

3.4 After care

4. Information for Women

5. Audit

5.1 Audit Indicators

- 400mcg folic acid taken daily up to 12 weeks gestation.
- Women should be booked under a named consultant and reviewed as early as possible in the antenatal clinic.
- An individualised plan for antenatal care has been documented.
- 150mg aspirin from 12 to 36 weeks
- Growth scans

5.2 Audit design

5.3 User Involvement

6. Evidence Base

6.1 Sources of information

- QS35 Hypertension in pregnancy – NICE 2013

- Walker KF, Bugg GJ, Macpherson M, Thornton J. Eur J Obstet Gynecol Reprod Biol. 2012 Jun;162(2):144-8. Epub 2012 Mar 15.

- Pregnancy after age 50: defining risks for mother and child. Kort DH, Gosselin J, Choi JM, Thornton MH, Cleary-Goldman J, Sauer MV. Am J Perinatol. 2012 Apr;29(4):245-50. Epub 2011 Aug 1.

- Age-specific risk of fetal loss observed in a second trimester serum screening population. Wyatt, PR et al. Am J Obstetr Gynecol 2005; 192: 210-6.

- Obesity in pregnancy. RCOG guideline 2010.

7. Appendices