

# MNCHP Network Bulletin



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by/par health **nexus** santé

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## I. ADVANCED MATERNAL AGE: RESOURCES FOR PRACTITIONERS

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### **1. ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS STATEMENT ON LATER MATERNAL AGE**

This statement by the Royal College of Obstetricians and Gynaecologists (ROCG) (2009) asserts that for women, the biologically optimum time for childbearing is between the ages of 20 to 35. Most women who are trying to conceive during this period will become pregnant within one year, (with the majority conceiving naturally). However, there is currently a rising trend of delayed childbearing within the UK, Canada, the United States, Western European countries, Australia and New Zealand. The ROGC encourages women to consider having families during the period of optimum fertility as beyond this period fertility decreases.

<http://www.rcog.org.uk/what-we-do/campaigning-and-opinions/statement/rcog-statement-later-maternal-age>

### **2. OBSTETRIC CLINICAL ALGORITHMS: MANAGEMENT AND EVIDENCE. CHAPTER 32: ADVANCED MATERNAL AGE**

This book chapter (Norwitz, 2010) discusses obstetrical topics that are of relevance to advanced maternal age, including: estimation of due date, chromosomal disorders, chorionic villus sampling, karyotype analysis, antenatal fetal testing, and elective induction of labour.

<http://onlinelibrary.wiley.com/doi/10.1002/9781444314489.ch32/summary>

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## II. ADVANCED MATERNAL AGE: RESOURCES FOR PARENTS AND CAREGIVERS

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### **3. ADVANCED MATERNAL AGE: PREGNANCY AFTER AGE 35**

This article by Expectant Mothers Guide (no date) addresses health matters that are relevant to pregnant women ages 35 years and older. Health care providers consider any pregnant woman over the age of 35 to be a high risk patient. However, age alone does not predict risk. Factors such as lifestyle factors, socioeconomics, family history and demographics also influences the well-being of the mother and baby. Several chronic diseases are more common in pregnant women over the age of 35. These include hypertension, diabetes and arthritis. Pregnant women in this age group are also at

greater risk of having a twin pregnancy, going into preterm labour or having a baby with chromosomal abnormalities. Genetic testing is a standard of care offered to the majority of pregnant women ages 35 and older. Common tests include amniocentesis and chorionic villus sampling (a procedure which may be done as early as the 9<sup>th</sup> week of pregnancy). Amniocentesis is not usually performed until the 13<sup>th</sup> or 14<sup>th</sup> week of pregnancy. Both tests carry with them a risk of miscarriage in less than one percent of the women undergoing such testing.

[http://www.expectantmothersguide.com/library/stlouis/ESLadv\\_maternal\\_age.htm](http://www.expectantmothersguide.com/library/stlouis/ESLadv_maternal_age.htm)

#### 4. TRYING TO GET PREGNANT: PREGNANCY AFTER 35

This article (March of Dimes, 2009) states that women over the age of 35 may experience a decline in fertility due to an increase in the incidence of endometriosis (tissue attached to the ovaries or fallopian tubes), blocked fallopian tubes and/or fibroids (non-cancerous growths in the uterus). Women of advanced maternal age are also more likely to conceive twins, experience a c-section delivery, and to have health problems prior to pregnancy. Gestational diabetes, high blood pressure, placental problems, premature births and stillbirths are more likely to occur in women of advanced maternal age.

[http://www.marchofdimes.com/pregnancy/getready\\_after35.html](http://www.marchofdimes.com/pregnancy/getready_after35.html)

#### 5. ADVANCED MATERNAL AGE-RISKS AND PRECAUTIONS

This article by Planning Family (2011) states that women may reduce the risk of complications associated with advanced maternal age by seeking early and regular prenatal care, taking multivitamins with folic acid (as prescribed by their health care providers), beginning pregnancy at a healthy weight, eating healthy foods and avoid smoking and drinking alcohol.

<http://www.planningfamily.com/pregnancy/health-and-well-being/advanced-maternal-age-risks-and-precautions/>

#### 6. WHAT ARE SOME OF THE RISKS of ADVANCED-AGE PREGNANCY

In this video (Planning Family, 2011), Dr. Mona Khanna describes the risks associated with advanced maternal age and the screening tools that are available to identify fetal abnormalities or potential maternal health problems.

<http://www.planningfamily.com/videos/?234170557>

#### 7. IMPROVING THE CHANCES FOR CONCEPTION AFTER THE AGE OF 40

In this video (Planning Family, 2011), Dr. Stephen Scott explains the association between advanced age and declining fertility.

<http://www.planningfamily.com/videos/preconception/improving-the-chances-for-conception-after-the-age-of-40-287360430/>

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### III. ADVANCED MATERNAL AGE: IN THE NEWS

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#### 8. STUDY CONFIRMS LINK BETWEEN ADVANCED MATERNAL AGE AND AUTISM

Recent research by Shelton and colleagues (2010) has demonstrated that mothers over the age of 40 have a 77 percent higher risk of having a child with autism (a developmental disorder characterized by impaired communication and social interaction) than mothers under the age of 25. Women over 35 are at increased risk for prolonged labour, premature or breached deliveries, and babies with low Apgar scores (a rating index used to evaluate the condition of newborns).

<http://www.scientificamerican.com/article.cfm?id=autism-maternal-age>

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### IV. UPCOMING ADVANCED MATERIAL AGE: RECENT RESEARCH AND REPORTS

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#### 9. THE CHILDREN OF OLDER FIRST TIME MOTHERS IN CANADA: THEIR HEALTH AND DEVELOPMENT

This report prepared by Statistics Canada (2008) examined the relationship between late childbearing among first-time mothers and children's physical health and development, behaviour and cognitive development.

<http://www.statcan.gc.ca/pub/89-599-m/89-599-m2008005-eng.pdf>

#### 10. ADVANCED MATERNAL AGE: HOW OLD IS TOO OLD?

This article written by Heffner (2004) states that the effect of maternal age on outcome of pregnancy must be assessed on five specific factors: declining fertility, miscarriage, chromosomal abnormalities, hypertensive complications and stillbirth. Miscarriage is defined as spontaneous pregnancy loss before the 20<sup>th</sup> week of gestation. The miscarriage rate increases from 10 percent at age 20 to 90 percent among women age 45 and older. Two thirds of miscarries have been found to occur among pregnancies with chromosomal abnormalities. Hypertensive complications of pregnancy includes both chronic hypertension (hypertension that predates pregnancy or that is diagnosed at the beginning of prenatal care) and pregnancy induced hypertension (which occurs during the second half of a pregnancy). Hypertensive complications are twice as likely to occur among women age 40 and older. Hypertension may restrict fetal growth and may necessitate premature delivery. Although relatively uncommon, advanced maternal age increases the risk of still birth (the death of a fetus after the 20<sup>th</sup> week of gestation).

[http://www.extendfertility.com/downloads/documents/NEJM\\_AdvancedMaternalAge\\_HowOldIsTooOld.pdf](http://www.extendfertility.com/downloads/documents/NEJM_AdvancedMaternalAge_HowOldIsTooOld.pdf)

## 11. ADVANCED MATERNAL AGE: ARE THE DECISIONS ABOUT THE TIMING OF CHILD-BEARING A FAILURE TO UNDERSTAND THE RISKS

On average first time Canadian mothers are older than first time mothers in other developed countries. A study by Benzie (2011) demonstrates that while generally aware of the association between advanced maternal age and conception difficulties, men and women are generally unaware of other medical risks, such as still births, caesarean delivery, multiple births and preterm delivery. Providing women with information regarding the medical risks associated with advanced maternal age may contribute to more informed decisions about the timing of childbearing.

<http://www.cmaj.ca/content/178/2/183.full.pdf>

## 12. ADVANCED MATERNAL AGE

Recent research (Mills, 2011) demonstrates that while there are potential psychological and social advantages to delaying childbirth, advanced maternal age is associated with increased risk of miscarriage, ectopic pregnancy, stillbirth, hypertensive disorders and gestational diabetes. There are many questions remaining unanswered regarding the underlying mechanisms of causation, as well as the contribution of age, and the age threshold at which age becomes significant.

<http://www.sciencedirect.com/science/article/pii/S1751721410002204>

## 13. ADVANCED MATERNAL AGE AS A SOLE INDICATION FOR GENETIC AMNIOCENTESIS: RISK-BENEFIT ANALYSIS BASED ON A LARGE DATABASE REFLECTING THE CURRENT COMMON PRACTICE

A study by Bornstein and colleagues (2009), demonstrates that providing patients with amniocentesis based solely on the indication of advanced maternal age outweighs the potential for amniocentesis-related fetal loss.

<http://www.ncbi.nlm.nih.gov/pubmed/1899991>

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## V. ADVANCED PATERNAL AGE: RESOURCES FOR PARENTS AND CAREGIVERS

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### 14. PATERNAL AGE RISKS

Existing evidence suggests that men over the age of 45 are at greater risk of fathering babies with autosomal dominant genetic disorders. Risk is thought to increase gradually each year. A gene is composed of DNA which gives our bodies instruction on how to grow and develop. An individual usually

has two copies of each gene, one from each parent. Dominant genetic disorders are disorders in which only one copy of a gene has a mutation (a mistake) resulting in a genetic disorder. Examples of autosomal dominant genetic disorders include achondroplasia (a form of dwarfism) and osteogenesis imperfecta (brittle bone disease). Due to the variety of dominant genetic disorders that currently exist, there is no single test available for prenatal diagnosis. Many dominant genetic disorders are not detectable through ultrasound. (Emory University School of Medicine, 2008).

[http://genetics.emory.edu/pdf/Emory\\_Human\\_Genetics\\_Paternal\\_Age\\_Risks.PDF](http://genetics.emory.edu/pdf/Emory_Human_Genetics_Paternal_Age_Risks.PDF)

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## VI. ADVANCED PATERNAL AGE: IN THE NEWS

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### 15. MISCARRIAGE SIGNIFICANTLY ASSOCIATED WITH INCREASING PATERNAL AGE

New research by Harlap and colleagues (2006) demonstrates that independent of maternal age and other factors such as diabetes, history of previous miscarriage and smoking, increased paternal age (defined in this study as age 35 and older) is associated with pregnancy loss prior to 20 weeks of gestation.

<http://www.sciencedaily.com/releases/2006/08/060803171027.htm>

### 16. FATHER'S AGE MAY AFFECT CHILD'S IQ LEVEL

Research by McGrath and colleagues (2009) has demonstrated that advanced paternal age (defined in this study as age 40 and over) is associated with lower intelligence scores in children age 7 and under. As men age, they experience an overall decline in fertility, while the number of damaged sperm available able to fertilize an egg is increased.

<http://www.theglobeandmail.com/life/article975992.ece>

### 17. IT SEEMS THE FERTILITY CLOCK TICKS FOR MEN TOO

In an article published in the New York Times (2007), it is revealed that several studies have indicated that as men age, they experience a decline in fertility. Men age 40 and older are at an increased risk of fathering a child with schizophrenia, autism or other medical conditions.

<http://query.nytimes.com/gst/fullpage.html?res=9D06E4DC1E3EF934A15751C0A9619C8B63>

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## VII. ADVANCED PATERNAL AGE: RECENT RESEARCH AND REPORTS

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### 18. ADVANCED PATERNAL AGE AND RISK OF FETAL DEATH IN A COHORT STUDY

A study by Anderson and colleagues (2004) found that pregnancies fathered by men age 50 and older were at almost twice the risk of ending in fetal loss. Paternal-age related risk of late fetal death was found to be greater than that of early fetal death, with an increase in risk beginning at age 45.

<http://aje.oxfordjournals.org/content/160/12/1214.full>

### 19. ADVANCED PATERNAL AGE: HOW OLD IS TOO OLD?

Evidence demonstrates that offspring of older fathers are at greater risk for reduced fertility, birth defects, some cancers and schizophrenia (Bray, 2006).

<http://jech.bmj.com/content/60/10/851.abstract>

### 20. TWIN BIRTHS RISE DRAMATICALLY, ESPECIALLY FOR OLDER WOMEN

The CDC (Centers for Disease Control and Prevention) released a report showing that the rate of twin births has risen quite substantially since the 1980s, especially amongst older women.

<http://www.medicalnewstoday.com/articles/239966.php>

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## VII. FEATURED BEST START RESOURCES

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### 21. REFLECTING ON THE TREND: PREGNANCY AFTER AGE 35

Best Start Resource Centre in collaboration with the Halton Region Health Department, 2007  
This guide to Advanced Maternal Age for Ontario service providers, includes a summary of statistical trends, influencing factors, health opportunities, health risks and recommendations for care.



The purpose of this manual is to bring together relevant information about prenatal care for pregnant women over age 35. It is intended for use by service providers who work with pregnant women, including public health nurses, nutritionists, mental health workers, genetic counsellors, occupational health nurses, doulas, prenatal educators, midwives, physicians and nurses.

Available for ordering or free pdf download:

[http://www.beststart.org/resources/rep\\_health/index.html](http://www.beststart.org/resources/rep_health/index.html)

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