

# Diabetes and Pregnancy

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# Background

## Diabetes and Pregnancy

- 698,512 live births in England & Wales in 2013
- 2-5% women have Diabetes Mellitus
- Similar numbers of Type 1 and Type 2 Diabetes Mellitus
- 87% due to Gestational Diabetes Mellitus
- Prevalence of diabetes is increasing especially in minority ethnic populations

# Outline of Session

## Women with Diabetes Mellitus (DM)

- The Importance of planning pregnancy and preconception care
- Antenatal care
- Retinal assessment - NICE Care Pathways

# Risks for women with diabetes

Why is it important for women with diabetes to plan pregnancy?

Maternal and fetal morbidity and mortality

# Confidential Enquiry into Maternal and Child Health 2007

Stillbirth: 4.7 x risk

Death of baby in first four weeks: 2.6 x risk

Major congenital anomaly:  
2 x risk



(Now CEMACE - “Centre for Maternal and Child Enquiries”)

# Maternal and Fetal Risks

Maternal	Fetal
Miscarriage	Macrosomia
Pre-eclampsia	Congenital malformation
Retinopathy Neuropathy Nephropathy	Birth Trauma
Preterm labour	Perinatal morbidity
Induction of labour	Stillbirth
Caesarean section	Neonatal death
Birth trauma	Obesity and/or diabetes developing in later life.

So how do we get the best outcomes?

# NICE Guidance

## Diabetes in Pregnancy

Now updated - Draft out for consultation 22<sup>nd</sup> August 2014  
<http://www.nice.org.uk/guidance/indevelopment/GID-CGWaveR107>



# The National Pregnancy in Diabetes (NPID) Audit

Measures:

1. Quality of pre-gestational diabetes care
2. Outcomes of pre-gestational diabetic pregnancy.

Were women with diabetes adequately prepared for pregnancy?

Were appropriate steps taken during pregnancy to minimise adverse outcomes to the mother?

Did any adverse outcomes occur?

<http://www.hscic.gov.uk/npid>

# Pregnancy Planning

## The Challenge!

< 25% access preconception care before pregnancy

Women don't admit that they are planning pregnancy

Lack of preconception care is associated with adverse outcomes

Macintosh et al 2006; Gizzo et al 2013

# Care needs to start before Pregnancy

## Preconception Care

Weight management

Blood glucose monitoring

Contraception

Medication review

Folic acid supplements (5 mg/day)

Retinal assessment

Renal assessment

# Care needs to start before pregnancy

## Weight Management

BMI > 27: Advise weight loss before conception

NICE CG63 2008

# Care needs to start before pregnancy

## Control Control Control!

Inform women that any reduction in HbA1c may reduce risks

Women with HbA1c above 10% should avoid pregnancy

Blood glucose meter for self-monitoring with individualised targets

Monthly HbA1c (Target below 6.5%)

NICE CKS 2012

## Use Contraception

HbA1c target

Retinal assessment by fundoscopy (unless carried out in previous 6 months)

Renal assessment (including microalbuminuria)

Weight > 27

# Care needs to start before pregnancy

Prescription for 5 mgs Folic Acid daily to prevent Neural Tube Defects and other congenital abnormalities.

MRC 1991; CEMACH 2006

# Care needs to start before pregnancy

## Medication Review

**Stop** oral hypoglycaemic agents, apart from metformin, and commence insulin if required

Metformin may be used before and during pregnancy, as well as or instead of insulin. Isophane insulin is the first-choice long-acting insulin

**Stop** Statins

**Stop** ACE inhibitors & angiotensin-II receptor antagonists

NICE CG63 2008



# Care needs to start before pregnancy

## Retinal Assessment Schedule – NICE guidance for women with pre-existing diabetes

Offer **retinal assessment** by digital imaging with mydriasis using tropicamide:

As soon as possible after the first contact in pregnancy if it has not been performed in the past 12 months

Rapid optimisation of glycaemic control should be deferred until after retinal assessment and treatment have been completed.

NICE CG63 2008

# Care needs to start before pregnancy

## Renal Assessment

Offer renal assessment and referral to nephrology if required.

NICE CG63 2008

Joint Clinics

Appointments and Information

Blood glucose review 1-2 weekly

Awareness of hypoglycaemia

Insulin pumps and continuous monitoring (CSII)

Diabetic ketoacidosis awareness

# Antenatal care

## Retinal Assessment Schedule – NICE guidance

Offer **retinal assessment** by digital imaging with mydriasis using tropicamide:

Following first antenatal clinic appointment

At 28 weeks if the first assessment is normal

At 16–20 weeks if diabetic retinopathy is present

NICE CG63 2008

## Retinopathy

Diabetic retinopathy is not a contraindication to normal vaginal birth.

Women who have preproliferative diabetic retinopathy diagnosed in pregnancy need follow up for at least 6 months after birth.

NICE CG63 2008

## Screening

- |             |  |
|-------------|--|
| 20 weeks    | Ultrasound scan for anomalies and cardiac function |
| 28-36 weeks | Growth and amniotic fluid volume scan<br>4 weekly  |

NICE CG63 2008

# Delivery of baby

Type 1 DM or Type 2 DM: Advise Induction of labour or elective caesarean section between 37 weeks and 38 weeks + 6 days

If complications consider birth before 37 weeks.

Gestational DM: Deliver before 39 weeks + 6 days

NICE CG63 proposed update 2015

# Key Messages

- Care needs to start before pregnancy
- Folic acid 5 mgs on prescription
- Control Control Control
- Retinal assessment
- Renal assessment
- Intensive antenatal care

Expect hard work!



# Outline of Session

## Women with Diabetes Mellitus

- The Importance of planning pregnancy and preconception care
- Antenatal care
- Retinal assessment - NICE Care Pathways

Thank you for your attention

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## References

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NICE CKS Preconception and Diabetes  
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National Diabetes Audit <http://www.hscic.gov.uk/npid>