Gestational Diabetes Mellitus; National Audit

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GDM; Definition

CHO intolerance, resulting in ↑G of variable severity, with <u>onset or first recognition</u> during pregnancy, whether or not …..

- **Insulin is used for treatment**
- **DM will persist after pregnancy**

Gestational DM, Can we agree?

? Definition

?Treatment

? Epidemiology

? Screening

? F&M Risks

GDM Screening

Yes

- **"Recommendation is based on limited or inconsistent scientific evidence"**

  Am.Coll Obs Gyn

- ***4th International Worksop on GDM***
- ***American Diabetes Association***

No

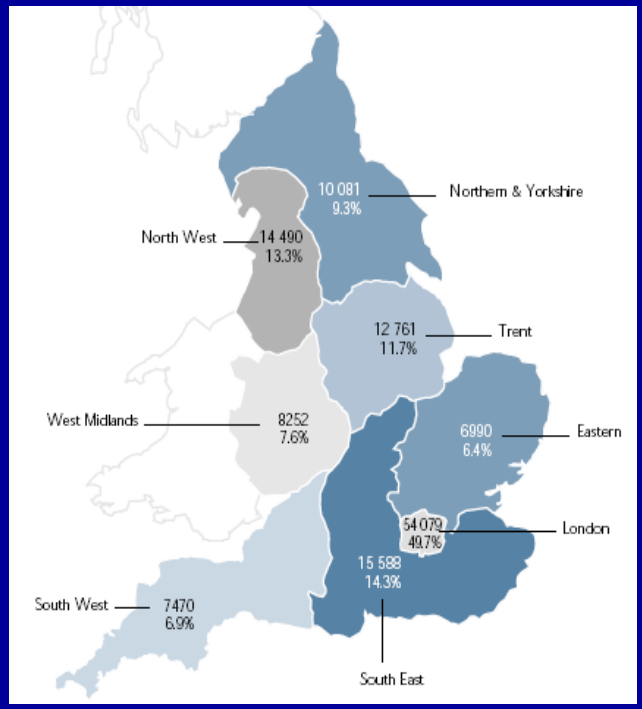
- **"the evidence is insufficient to recommend for or against routine screening for GDM"**

  US Preventative Task Force

- ***Canadian Task Force on the Periodic Health Examination***
- ***Health Technology Assessments***
- ***NICE 2003***

Planning

- **Aim:**
  - **To evaluate routine practice for GDM screening and management across the UK**
- **Process (2002-2004):**
  - **Questionnaire design**
  - **ABCD Circulation (<30%)**
  - **Contact non responding Trusts**
  - **Ten regions:**
    - **England: London, SE+SW, Eastern, Trent, WM, NW, N&Yorkshire**
    - **Scotland, Wales, Ireland**



Questionnaire

- **Responding centre:**
  - **Locality**
  - **Is there a Joint Clinic?**
  - **Deliveries per annum**
  - **GDM prevalence**
- **GDM screening:**
  - **Do you routinely screen?**
  - **Universal or selective (high-risk population)**

Questionnaire

- **Screening tests:**
  - **Which; FPG, RPG, 50-g OGTT, glycosuria**
  - **Gestational age**
  - **Cut-off values**
  - **Further actions**
- **Sequence of tests to screen then confirm GDM**

Questionnaire

- When do you initiate insulin therapy?
- Do you routinely consider foetal growth scans?
- Do you instruct patients that they are at high risk for future development of:
  - GDM?
  - Type 2 DM?

Results

- **Response rate: 35 – 67 (46%)**
- **Most (85%) units had a joint clinic, regardless of deliveries per annum**
- **Reported prevalence of GDM:**
  0.1 – 10% (median 1.5%)
- **Most (82%) centres routinely screened for GDM; half universally and half screening high-risk pregnancies only**

Screening Tests (1)

	Glycosuria	High-risk Features
% Use as 1st screen	40%	11%
Gestation	Each visit (82%)	24-28w (50%) Booking (20%)
Further action, if +ve	•OGTT (55%) •RPG (22%)	•OGTT (73%) •Diet/HBGM (8%) •FPG (8%)

Screening Tests (2)

	RPG	FPG
% Use as 1st screen	28%	6%
Gestation	24-28w (29%) Booking (36%)	24-28w (39%) >28w (13%)
Cut-off Values (mmol/L)	>6 (67%) 5.6-6 (14%)	>6 (40%) 5.6-6 (30%) 5-5.5 (18%)
Further action, if +ve	•OGTT (76%) •Diet/HBGM (9%) •FPG (9%)	•OGTT (74%) •Diet/HBGM (19%)

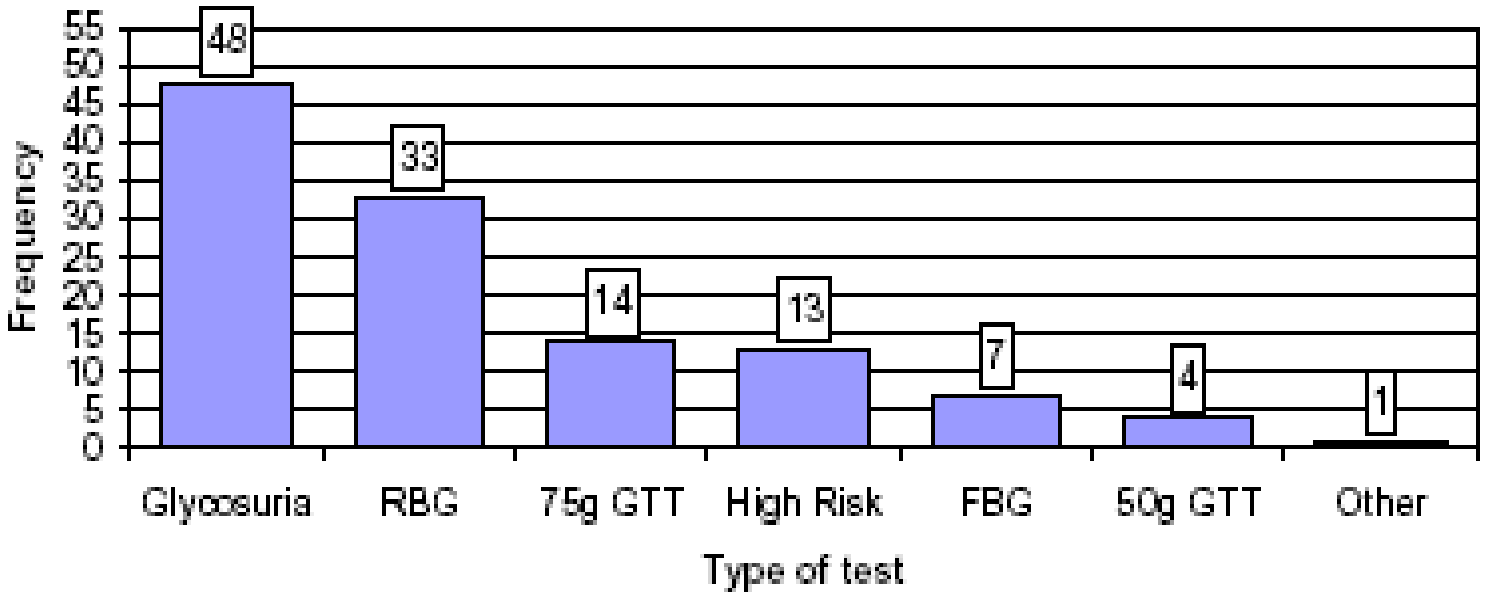
75-g OGTT

- **Most likely confirmatory test, however;**
- **Variable timing:**
  - **24-28 w (55%)**
  - **Before 24 w (7%)**
  - **After 28 weeks (9%)**
  - **If screening +ve (16%)**
- **Variable cut-off values**
  - **WHO**
  - **5.5 and 9 mmol/l**
  - **Others (e.g. >8 2h, >5.6 + 8.5, RBG>9,….)**

Screening Sequence 1

Sequence 1 (n=120)*

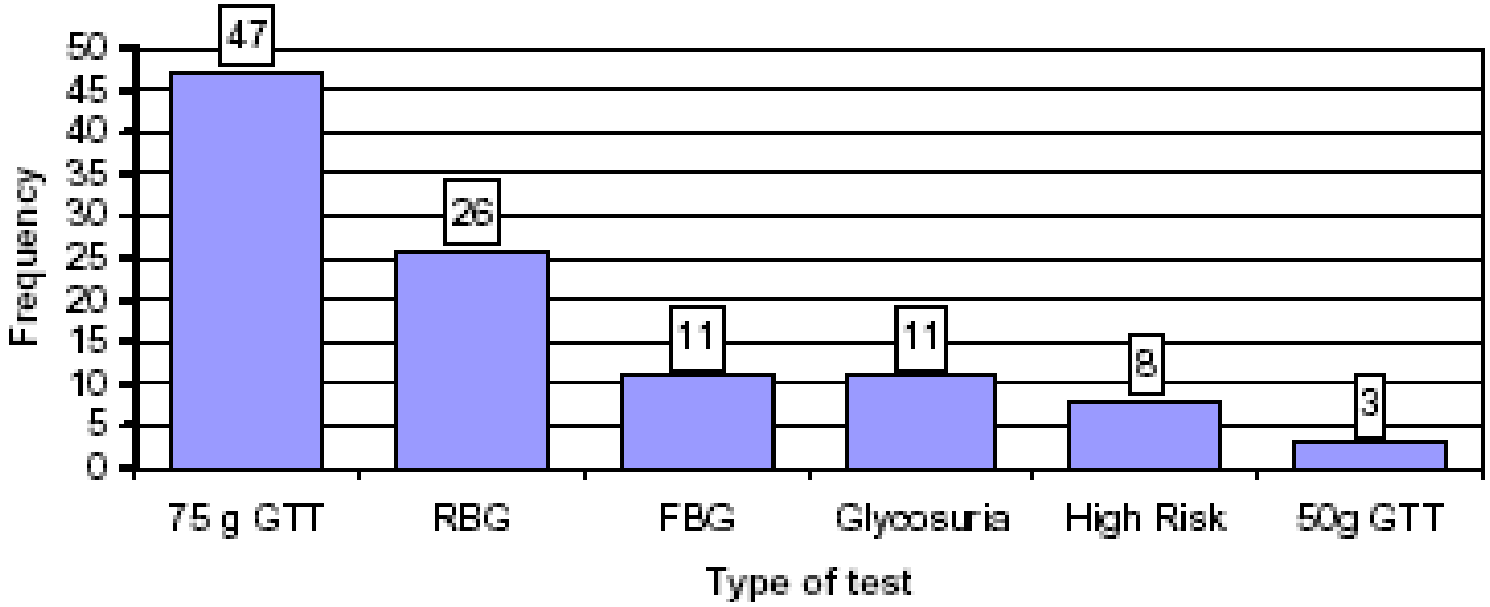
* In 49 cases this question was not answered.



Screening Sequence 2

Sequence 2 (n=106)*

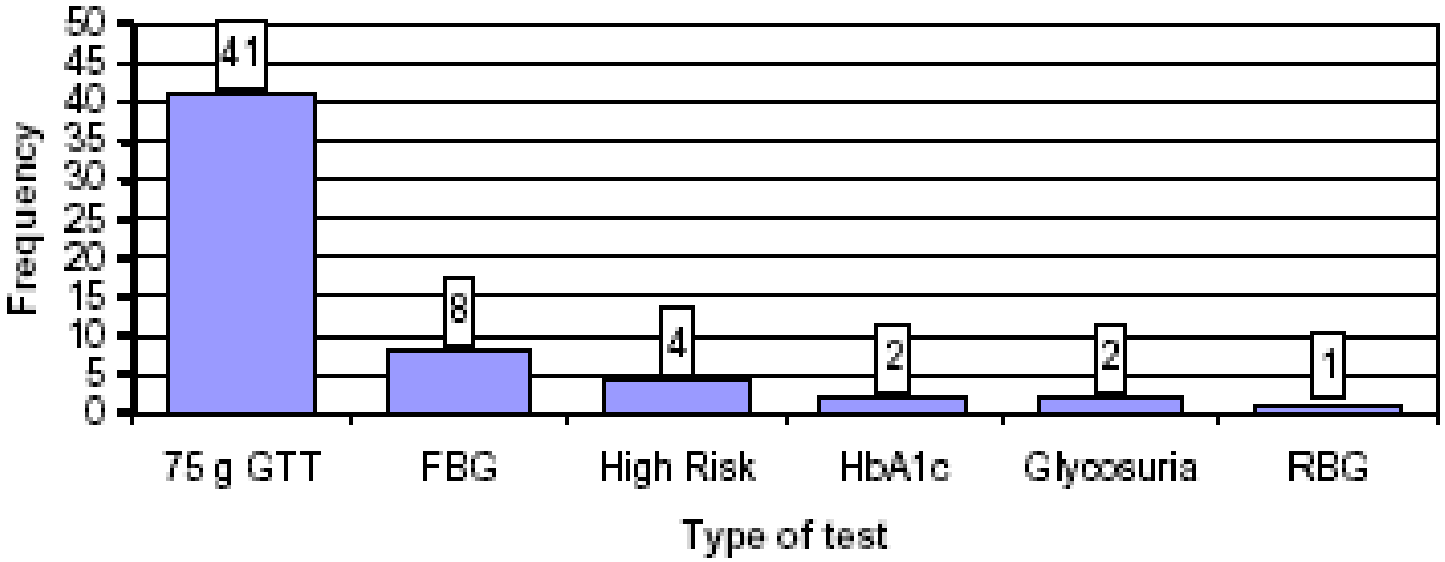
* In 63 cases this question was not answered.



Screening Sequence 3

Sequence 3 (n=58)*

* In 111 cases this question was not answered.



Insulin Therapy

- Most (89%) centres have guidelines, however,
  - Variable surrogates: FPG, RPG, 1hPP, 2h-PP
  - Variable cut-off values
- Most (95%) assess foetal growth routinely

Post-Partum Care

- Screening undertaken by 90%
- 75g-OGTT used by 93%
- Most (90%) centres counsel patients about their high risk for further development of GDM and type 2 DM

Regional Variability

- **Aim: To assess regional variability trends**
- **Methods:**
  - **CHI Square test**
  - **Statxact 4 (Cytel Corp., Cambridge Mass)**
- **Results: No clear variability trends within the various regions of the UK**

Regional Variability

	Fasting Glucose	Random Glucose	Glycosuria	High Risk Features
Timing	(0.37)	(0.25)	(0.18)	(0.72)
Cut-off Values	(0.73)	(0.61)	N/A	N/A
Subsequent OGTT	0.03	0.58	0.57	0.47

GDM, Update

- **ACHOIS (NEJM, 2005):**
  - **RCT, routine vs. GDM treatment (~500 each)**
  - **Conclusion: GDM treatment reduces serious perinatal morbidity and may also improve the woman's health-related quality of life**
- **Colorado GDM Screening Program (D Care, 2005):**
  - **36,403 singleton pregnancies**
  - **GDM prevalence doubled from 1994-2002**
  - **Prevalence increased in all ethnic groups**
- **A Study of Discordant Siblings (Diabetes, 2000):**
  - **DM risk ↑ in siblings born after mother developed DM, than in those born before the mother's diagnosis**
  - **In-utero exposure to DM conveys high risk for development of DM & obesity in offspring, in excess of risk attributable to genetic factors alone**

GDM; We Do Not Agree!!

? Definition

?Treatment

? Epidemiology

? Screening

? F&M Risks;

Should We?