

## Guidelines for the management of gestational diabetes mellitus revisited

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**TO THE EDITOR:** In 1998, the Australasian Diabetes in Pregnancy Society (ADIPS) published management guidelines for gestational diabetes mellitus (GDM).<sup>1</sup> Recently, the American College of Obstetricians and Gynecologists (ACOG) published its clinical management guidelines for GDM.<sup>2</sup> The Table shows there are few differences from the ADIPS guidelines. At this stage, ADIPS does not consider existing evidence warrants revision of its guidelines. ADIPS will retain its existing criteria for the diagnosis of GDM based on a 75 g oral glucose tolerance test (OGTT) pending publication of the Hyperglycaemia and Adverse Pregnancy Outcome Study.<sup>3</sup> The results of this international prospective study of 25 000 pregnant women should be available in June 2004.

A second publication, the draft *National evidence-based guidelines for the management of Type 2 diabetes mellitus*,<sup>4</sup> does not include GDM, but initially recommended that "women with previous GDM should be retested every three years for undiagnosed Type 2 diabetes". This periodicity was selected to retest for undiagnosed disease when the cumulative risk of developing diabetes had reached 5%. The time interval was selected on the basis of European studies.

In contrast, the ADIPS guidelines recommended testing every 1–2 years, but gave no reason for this, apart from the high risk of progression to diabetes among women of certain ethnic backgrounds who had had past GDM (as high as 47% over five years in Latino women<sup>5</sup>). A further, unstated reason for the 1–2-yearly testing was the major concern that fetal exposure to undiagnosed diabetes in any subsequent pregnancies could result in malformations.

The following has now been inserted into the draft Type 2 guidelines:<sup>4</sup> "The guideline conclusion to retest women with previous GDM every 3 years represents minimum criteria. More frequent retesting may be appropriate depending on clinical circumstances, especially during the child bearing years."

ADIPS supports this amendment fully and has revised its own guidelines in relation to maternal follow-up after GDM as follows:

- All women with previous GDM to be offered testing for diabetes with a 75 g OGTT 6–8 weeks after delivery;
- Repeat testing should be performed every 1–2 years among women with normal glucose tolerance and the potential for further pregnancies;
- If pregnancy is not possible, follow-up testing should be performed every 3 years, with more frequent retesting depending on clinical circumstances (eg, ethnicity, past history of insulin treatment in pregnancy, recurrent episodes of GDM).

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## Updates in medicine: paediatrics and paediatric surgery

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**TO THE EDITOR:** While we enjoyed reading Sewell's article summarising advances in paediatrics, there was no mention of developments in general paediatric surgery.<sup>1</sup> About a third of all patients admitted to a paediatric hospital have surgical conditions. Viable advances would thus have significant implications for many children and their families.

**Prevention:** Although vaccination against infectious diseases remains vital, the greatest killer of children in Australia is trauma.<sup>2</sup> Detailed analysis of patterns of injury morbidity and mortality enable recommendations for prevention to be made. Legislation to reduce the risk of scalding was enacted in 1999 in NSW to regulate the temperature of hot water in new homes. Similar measures, in addition to educating families and their local doctors, have been proposed to prevent driveway and horse-related trauma in children.<sup>3,4</sup> Overseas data confirm that such interventions may be effective in helping to reduce Australia's present mortality rate from injury of 9.5

### Differences between management guidelines for gestational diabetes mellitus (GDM) from the Australasian Diabetes in Pregnancy Society (ADIPS, 1998) and the American College of Obstetricians and Gynecologists (ACOG, 2001)

	ADIPS	ACOG
Universal versus selective screening by blood test	Universal unless low GDM incidence or resources limited	No recommendation. States that "many physicians elect to screen all pregnant patients as a practical matter"
Differences in definition of low risk for GDM	Age < 30 years, obesity, family history of diabetes	Age < 25 years, body mass index < 25 kg/m <sup>2</sup> . No known diabetes in first-degree relative
Oral glucose tolerance test used	75 g, 2-hour, 2-point blood sampling	100 g, 3-hour, 4-point blood sampling
Criteria for diagnosis of GDM	Plasma glucose level: Fasting, ≥ 5.5 mmol/L and/or 2-hour, ≥ 8.0 mmol/L (Australia); 1-hour, ≥ 10.0 mmol/L	Plasma glucose level: Fasting, ≥ 5.3 mmol/L; 2-hour, ≥ 8.6 mmol/L; 3-hour, ≥ 7.8 mmol/L; (2 or more time points need to be elevated)
Insulin therapy commenced after medical-nutrition therapy	Plasma glucose level: Fasting, ≥ 5.5 mmol/L and/or 1-hour postprandial, ≥ 8.0 mmol/L and/or 2-hour postprandial, ≥ 7.0 mmol/L	Plasma glucose level: Fasting, ≥ 5.3 mmol/L and/or 1-hour postprandial, ≥ 7.2–7.8 mmol/L and/or 2-hour postprandial, ≥ 6.7 mmol/L

per 100 000 children in 1991–1995 to Sweden's rate of 5.2 per 100 000.<sup>5</sup>

**Diagnosis:** Laser Doppler imaging of paediatric burns will enable the surgeon to determine the requirement for operative intervention within 48 hours of the burn, expediting treatment and reducing costs.<sup>6</sup> In conjunction with the use of cultured keratinocytes, the risk of subsequent scarring should be minimised.<sup>7</sup>

Antenatal diagnosis of hydronephrosis and hydroureter has assisted in our understanding of the natural history of urological disease in childhood, helping refine the indications for surgical intervention.<sup>8</sup>

**Intervention:** The safety of early surgical intervention in childhood is now well established. Many common conditions such as hypospadias are now optimally treated before the child's first birthday, requiring earlier referral.<sup>9</sup>

Minimally invasive surgery has now evolved into a useful additional technique in children, in conjunction with the development of appropriate indications, suitable instruments and specialist surgical skills.<sup>10</sup>

While brevity may be an editorial necessity, paediatric surgery encompasses many areas. Although our selection represents a personal choice, advances require active involvement and consultation with colleagues across all specialties.

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reference to the risks, benefits and psychological effects of surgery and anesthesia. *Pediatrics* 1996; 97: 590-594.  
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**IN REPLY:** The points made by three senior surgeons at The Children's Hospital at Westmead Hospital, emphasising important areas of progress in general paediatric surgery, are valid and point to the wide range of advancing activities in paediatric care.

Given the difficulty of covering all areas in a brief article, I am pleased that the Letters to the Editor section of the Journal provides another opportunity to broaden the discussion. □

### Impact of changing the criteria for diagnosing diabetes in Australia

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**TO THE EDITOR:** Both the American Diabetes Association (ADA)<sup>1</sup> and the World Health Organization (WHO)<sup>2</sup> have lowered the fasting plasma glucose (FPG) level for the diagnosis of diabetes from 7.8 mmol/L to 7.0 mmol/L. The Australian Diabetes Society (ADS) has also adopted the lower level.<sup>3</sup> However, these organisations differ in the procedure for diagnosis they recommend. The recent article by Hilton and colleagues<sup>4</sup> compared these procedures, with particular attention to including an oral glucose

tolerance test (OGTT). We, on the other hand, have investigated the impact of lowering the diagnostic FPG level to 7.0 mmol/L.

Data were obtained by the Geelong Osteoporosis Study from an age-stratified sample of women randomly selected from electoral rolls for the Barwon Statistical Division<sup>5</sup> and adjusted to match the national age profile. Venous FPG level was determined after an overnight fast, together with blood pressure (BP, seated) and anthropometric measurements, in 944 women aged 20–91 years (mean age, 47.5 years; SD, 17.8 years). History of diabetes was ascertained by questionnaire.

The prevalence of self-reported diabetes and diabetes defined by an FPG level of 7.0 mmol/L or higher was 4.3% (95% CI, 3.0%–5.6%; 41 women), whereas using an FPG level of 7.8 mmol/L or higher gave a prevalence of 3.8% (95% CI, 2.6%–5.0%; 36 women). With the lower cut-off level, 29% of women (12) were unaware of their diabetes, compared with 19% (7) using the higher FPG level cut-off point.

Characteristics of those identified using the lower cut-off FPG level are shown in the Table. After age-matching all patients with diabetes with control participants, diabetes was significantly associated with obesity (body mass index, >30; odds ratio [OR], 4.2; 95% CI, 1.5–11.6) and central body fat distribution (waist/hip ratio,  $\geq$  0.8; OR, 8.0; 95% CI, 2.3–25.9); and non-significantly associated with higher blood pressure (systolic, >140 mmHg; diastolic, >85 mmHg; OR, 2.0; 95% CI, 0.8–4.9).

The new criterion for diagnosing diabetes identifies a subgroup of the population with a high proportion of obesity and android habitus, with a tendency to higher blood pressure. The recommendation of lowering the diagnostic FPG level increases the prevalence of diabetes by an apparently small proportion, but would diagnose diabetes in an additional 34 000 women in Australia.

#### Characteristics (mean $\pm$ SD) of diabetic women (FPG $\geq$ 7.0 mmol/L) and controls (FPG < 7.0 mmol/L).

Characteristic	Diabetics (n = 41)	Controls (n = 903)	P*
Age (years)	65.1 $\pm$ 11.1	46.7 $\pm$ 17.7	< 0.0001
Weight (kg)	74.5 $\pm$ 16.2	68.6 $\pm$ 14.4	0.03
Height (cm)	158.6 $\pm$ 5.6	161.9 $\pm$ 6.5	0.0007
BMI (kg/m <sup>2</sup> )	29.6 $\pm$ 6.1	26.2 $\pm$ 5.3	0.001
Waist/hip ratio	0.88 $\pm$ 0.06	0.80 $\pm$ 0.07	< 0.0001
Systolic BP (mmHg)	139 $\pm$ 21	121 $\pm$ 21	< 0.0001
Diastolic BP (mmHg)	83 $\pm$ 16	76 $\pm$ 12	0.007

\* t test. FPG = fasting plasma glucose; BMI = body mass index; BP = blood pressure.

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