# Queensland Clinical Guidelines

*Translating evidence into best clinical practice*

Maternity and Neonatal **Clinical Guideline**

# Supplement: Gestational diabetes mellitus

Queensland Government

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# 1 Introduction

This document is a supplement to the Queensland Clinical Guideline *Gestational diabetes mellitus (GDM).* It provides supplementary information regarding guideline development, makes summary recommendations, suggests measures to assist implementation and quality activities and summarises changes (if any) to the guideline since original publication. Refer to the guideline for abbreviations, acronyms, flow charts and acknowledgements.

## 1.1 Funding

The development of this guideline was funded by the Health Systems Innovation Branch, Queensland Health. Working party members participated on a voluntary basis except consumer representatives who were paid a standard fee.

## 1.2 Conflict of interest

Declarations of conflict of interest were sought from working party members as per the Queensland Clinical Guidelines *Conflict of Interest* statement. No conflict of interest was identified

## 1.3 Guideline review

Queensland Clinical Guidelines are reviewed every 5 years or earlier if significant new evidence emerges. Table 1 provides a summary of changes made to the guidelines since original publication.

Table 1. Summary of change

| Publication date | Identifier | Summary of major change |
|---|---|---|
| August 2015 | MN15.33-V1-R20 | First publication |

# 2 Methodology

Queensland Clinical Guidelines (QCG) follows a rigorous process of guideline development. This process was endorsed by the Queensland Health Patient Safety and Quality Executive Committee in December 2009. The guidelines are best described as 'evidence informed consensus guidelines' and draw from the evidence base of existing national and international guidelines and the expert opinion of the working party.

## 2.1 Topic identification

The topic has been identified as a priority by multiple groups, agencies and individuals in Queensland since 2009.

## 2.2 Scope

The scope of the guideline was determined using the PICO Framework (Population, Intervention, Comparison and Outcome) as outlined in Table 2.

Table 2. PICO Framework

| **PICO** | |
|---|---|
| **Population** | Testing: All pregnant women<br>Management: Women diagnosed with GDM or Diabetes Mellitus in Pregnancy |
| **Intervention** | Testing for and management of women with GDM |
| **Comparison** | n/a |
| **Outcome** | Key concepts of screening for GDM and assessment and management of women with GDM are identified |

## 2.3 Clinical questions

The following clinical questions were generated to inform the guideline scope and purpose:

- How is GDM diagnosed in pregnancy?
- What antenatal care is indicated for the woman diagnosed with GDM?
- What care is required during the intrapartum period for the woman with GDM?
- What care is indicated during the post-partum period for the woman with GDM?

## 2.4 Exclusions

The following exclusions were identified in the guideline scope:

- Women with pre-existing Diabetes Mellitus i.e. Type 1 or Type 2 Diabetes
- Usual or routine peripartum care for mother and baby

## 2.5 Search strategy

A search of the literature was conducted during October–December 2014 using multiple techniques including search and review of:

- Known guideline sites (e.g. Australasian Diabetes in Pregnancy Society, Royal Australian and New Zealand College of Obstetricians and Gynaecologists, National Guideline Clearing House, Royal College of Obstetrician and Gynaecologists,
- Synthesised evidence (e.g. UpToDate, Cochrane reviews)
- Summaries of relevant literature (e.g. identified using Cinahl, PubMed)
- Individual case reports, studies and trials identified in the literature
- Relevant reference lists

## 2.6 Consultation

Major consultative and development processes occurred between December 2014 and May 2015. These are outlined in Table 3.

Table 3. Major guideline development processes

| Process | Activity |
|---|---|
| **Clinical lead** | • The nominated co-clinical leads were approved by QCG Steering Committee |
| **Consumer participation** | • Consumer participation was invited from a range of consumer focused organisations who had previously accepted an invitation for on-going involvement with QCG |
| **Working party** | • An EOI for working party membership was distributed via email to Queensland clinicians and stakeholders (~1000) in December 2014<br>• The working party was recruited from responses received<br>• Working party members who participated in the working party consultation processes are acknowledged in the guideline<br>• Working party consultation occurred in a virtual group via email |
| **Statewide consultation** | • Consultation was invited from Queensland clinicians and stakeholders (~1500) during March and April 2015<br>• Feedback was received primarily via email<br>• All feedback was compiled and provided to the co-clinical leads and working party members for review and comment |

## 2.7 Endorsement

The guideline was endorsed by the:

- Queensland Clinical Guidelines Steering Committee in July 2015
- Statewide Maternity and Neonatal Clinical Network [Queensland] in July 2015
- Statewide Diabetes Clinical Network [Queensland] in August 2015

## 2.8 Publication

The guideline and guideline supplement were published on the QCG website in August 2015. The guideline can be cited as:

> Queensland Clinical Guidelines Gestational diabetes mellitus. Guideline No. MN15.33-R20. Queensland Health. 2015. Available from: http://www.health.qld.gov.au/qcg .

The guideline supplement can be cited as:

> Queensland Clinical Guidelines. Supplement: Gestational diabetes mellitus. Guideline No. MN15.33-R20 Queensland Health. 2015. Available from: http://www.health.qld.gov.au/qcg

# 3 Summary recommendations

The evidence grading system used by the American Diabetes Association[1] was used to inform the summary recommendations. Definitions for grade of recommendation are outlined in Table 4. Summary recommendations are outlined in Table 5. The assigned grades are derived from the grades of evidence provided in the source document or consensus recommendations of the working party and clinical lead as indicated.

Table 4. Grade of recommendation

| **Levels of evidence** | |
|---|---|
| **A** | Clear evidence from well-conducted, generalizable RCTs that are adequately powered, including:<br>• Evidence from a well-conducted multicentre trial<br>• Evidence from a meta-analysis that incorporated quality ratings in the analysis<br>Compelling nonexperimental evidence, i.e., "all or none" rule developed by the Center for Evidence-Based Medicine at the University of Oxford<br><br>Supportive evidence from well-conducted RCTs that are adequately powered, including:<br>• Evidence from a well-conducted trial at one or more institutions<br>• Evidence from a meta-analysis that incorporated quality ratings in the analysis |
| **B** | Supportive evidence from well-conducted cohort studies<br>• Evidence from a well-conducted prospective cohort study or registry<br>• Evidence from a well-conducted meta-analysis of cohort studies<br>Supportive evidence from a well-conducted case-control study |
| **C** | Supportive evidence from poorly controlled or uncontrolled studies<br>• Evidence from randomized clinical trials with one or more major or three or more minor methodological flaws that could invalidate the results<br>• Evidence from observational studies with high potential for bias (such as case series with comparison with historical controls)<br>• Evidence from case series or case reports<br>Conflicting evidence with the weight of evidence supporting the recommendation |
| **Consensus*** | Opinions based on respected authorities, descriptive studies or reports of expert committees or clinical experience of the working party. |

*The 'consensus' definition in Table 4 relates to the clinical experience of the guideline's clinical leads and working party.

## 3.1 Summary recommendations

Summary recommendations and levels of evidence are outlined in Table 5.

Table 5. Summary recommendations

| Recommendation | | Grading of evidence |
|---|---|---|
| **1.** | Screen for undiagnosed type 2 diabetes at the first prenatal visit in those with risk factors, using standard diagnostic criteria. | **B** |
| **2.** | Screen for GDM at 24–28 weeks of gestation in pregnant women not previously known to have diabetes. | **A** |
| **3.** | Use the classifications and diagnostic criteria in the Queensland Clinical Guideline *Gestational diabetes mellitus* so as to promote consistency of care and communications | **Consensus** |
| **4.** | Recommend BGL self-monitoring to women diagnosed with GDM | **Consensus** |
| **5.** | Treat women diagnosed with GDM with Medical Nutrition Therapy and when necessary, medication for both fetal and maternal benefit | **A** |
| **6.** | Develop and document a peripartum plan of care for women diagnosed with GDM | **Consensus** |
| **7.** | Provide lifestyle intervention counselling to women with a history of GDM | **Consensus** |
| **8.** | Offer women with a history of GDM, lifelong screening for the development of diabetes or prediabetes at least every 3 years. | **B** |

# 4 Implementation

This guideline is applicable to all Queensland public and private maternity facilities. It can be downloaded in Portable Document Format (PDF) from www.health.qld.gov.au/qcg

## 4.1 Guideline resources

The following guideline components are provided on the website as separate resources:

- Flowchart: Screening and diagnosis of GDM
- Flowchart: Intrapartum management for GDM requiring Insulin and/or Metformin
- Flowchart: Postpartum management for all women with GDM
- Flowchart: Antenatal schedule of care
- Education resource: Gestational diabetes mellitus
- Knowledge assessment: Gestational diabetes mellitus
- Auditing resources: Gestational diabetes mellitus

## 4.2 Suggested resources

During the development process stakeholders identified additional resources with potential to complement and enhance guideline implementation and application. The following resources have not been sourced or developed by QCG but are suggested as complimentary to the guideline:

- Parent information

## 4.3 Implementation measures

Suggested activities to assist implementation of the guideline are outlined below.

### 4.3.1 QCG measures

- Notify Chief Executive Officer and relevant stakeholders
- Monitor emerging new evidence to ensure guideline reflects contemporaneous practice
- Capture user feedback
- Record and manage change requests
- Review guideline in 2020

### 4.3.2 Hospital and Health Service measures

Initiate, promote and support local systems and processes to integrate the guideline into clinical practice, including:

- Hospital and Health Service (HHS) Executive endorse the guidelines and their use in the HHS and communicate this to staff
- Promote the introduction of the guideline to relevant health care professionals
- Support education and training opportunities relevant to the guideline and service capabilities
- Align clinical care with guideline recommendations
- Undertake relevant implementation activities as outlined in the *Guideline implementation checklist* available at www.health.qld.gov.au/qcg

## 4.4 Quality measures

Auditing of guideline recommendations and content assists with identifying quality of care issues and provides evidence of compliance with the National Safety and Quality Health Service (NSQHS)Standards.[2] Suggested audit and quality measures are identified in Table 6. NSQHS Standard 1.

Table 6. NSQHS Standard 1

| **NSQHS Standard 1: Governance for Safety and Quality in Health Service Organisations** | |
|---|---|
| **Clinical Practice: Care provided by the clinical workforce is guided by current best practice** | |
| **Criterion 1.7:** | **Actions required:** |
| Developing and/or applying clinical guidelines or pathways that are supported by the best available evidence | 1.7.1 Agreed and documented clinical guidelines and/or pathways are available to the clinical workforce |
| | 1.7.2 The use of agreed clinical guidelines by the clinical workforce is monitored |

The following clinical quality measures are suggested:

Table 7. Clinical quality measures

| No | Audit criteria | Guideline Section |
|---|---|---|
| 1. | Proportion of pregnant women with risk factors, who are screened for GDM at the first antenatal contact with either the HbA1c or OGTT test | Section 2.5 |
| 2. | Proportion of women screened for GDM between 24–28 weeks gestation with OGTT | Section 2.5 |
| 3. | Proportion of women correctly classified as GDM or Diabetes in pregnancy according to the diagnostic criteria identified in the guideline | Section 2.6<br>Section 2.7 |
| 4. | Proportion of women with GDM who receive instruction on BGL self-monitoring from a clinician skilled in teaching BGL monitoring | Section 3.4 |
| 5. | Proportion of women with GDM who are referred to an accredited practising dietitian within 1 week of diagnosis | Section 3.5 |
| 6. | Proportion of women with GDM who have a documented peripartum plan of care in the health care record | Section 3 |
| 7. | Proportion of women who are screened for persistent diabetes at 6–12 weeks postpartum | Section 6.3 |
| 8. | Proportion of women with GDM who receive lifestyle intervention counselling/information postpartum | Section 6.3 |

## 4.5 Safety and quality

Implementation of this guideline provides evidence of compliance with the NSQHS and Australian Council on Healthcare Standards (ACHS) EQuIPNational accreditation programs[2,3]

Table 8. NSQHS/EQuIPNational Criteria

| NSQHS/EQuIPNational Criteria | Actions required | ☑ Evidence of compliance |
|---|---|---|
| **Standard 1: Governance for Safety and Quality in Health Service Organisations** | | |
| **Clinical practice**<br>1.7 Developing and/or applying clinical guidelines or pathways that are supported by the best available evidence | 1.7.1 Agreed and documented clinical guidelines and/or pathways are available to the clinical workforce | ☑ Queensland Clinical Guidelines is funded by Queensland Health to develop clinical guidelines relevant to the service line to guide safe patient care across Queensland<br>☑ The guideline provides evidence-based and best practice recommendations for care<br>☑ The guideline is endorsed for use in Queensland Health facilities.<br>☑ A desktop icon is available on every Queensland Health computer desktop to provide quick and easy access to the guideline |
| **Performance and skills management**<br>1.12 Ensuring that systems are in place for ongoing safety and quality education and training | 1.12.1 The clinical and relevant non-clinical workforce have access to ongoing safety and quality education and training for identified professional and personal development | ☑ The guideline has accompanying educational resources to support ongoing safety and quality education for identified professional and personal development. The resources are freely available on the internet http://www.health.qld.gov.au/qcg |
| **Standard 2: Partnering with Consumers** | | |
| **Consumer partnership in designing care**<br>2.5 Partnering with consumers and/or carers to design the way care is delivered to better meet patient needs and preferences | 2.5.1 Consumers and/or carers participate in the design and redesign of health services | ☑ Consumer consultation was sought and obtained during the development of the guideline. Refer to the acknowledgement section of the guideline for details |
| **Standard 9: Recognising clinical deterioration and escalating care** | | |
| **Establishing recognition and response systems**<br>9.1 Developing, implementing and regularly reviewing the effectiveness of governance arrangements and the policies, procedures and/or protocols that are consistent with the requirements of the National Consensus Statement. | 9.1.2 Policies, procedures and/or protocols for the organisation are implemented in areas such as:<br>• Measurement and documentation of observations<br>• Escalation of care<br>• Establishment of a rapid response system<br>• Communication about clinical deterioration | ☑ The guideline is consistent with National Consensus statement recommendations<br>☑ The guideline recommends the use of the Maternity Early Warning Tool. The tool is consistent with principles of recognising clinical deterioration and escalating care |

| NSQHS/EQuIPNational Criteria | Actions required | ☑ Evidence of compliance |
|---|---|---|
| **EQuIPNational** | | |
| **Standard 12 Provision of care** | | |
| **Criterion 1: Assessment and care planning**<br>12.1 Ensuring assessment is comprehensive and based upon current professional standards and evidence based practice | 12.1.1 Guidelines are available and accessible by staff to assess physical, spiritual, cultural, physiological and social health promotion needs | ☑ Assessment and care appropriate to the cohort of patients is identified in the guideline<br>☑ The guideline is based on the best available evidence |

# 5 References

1. American Diabetes Association. Position statement: standards of medical care in diabetes 2014. Diabetes Care. 2014; 37(Supplement 1):S14-S80.

2. Australian Commission on Safety and Quality in Healthcare. National Safety and Quality Health Service Standards. 2012 [cited 2014, October 14]. Available from: http://www.safetyandquality.gov.au/.

3. The Australian Council on Healthcare Standards. EQuIPNational Guidelines. 2012 [cited 2014 October 20]. Available from: http://www.achs.org.au/programs-services/.