Queensland Clinical Guidelines

Translating evidence into best clinical practice

Maternity and Neonatal **Clinical Guideline**

Guideline supplement: Hypoglycaemia–newborn

Queensland Government

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1 Introduction

This document is a supplement to the Queensland Clinical Guideline (QCG) *Hypoglycaemia-newborn.* 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 Healthcare Improvement Unit, Queensland Health. Consumer representatives were paid a standard fee. Other working party members participated on a voluntary basis.

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. Conflicts of interest were managed as per usual process.

1.3 Development process

This version of the guideline followed the QCG Full review process

1.4 Summary of changes

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 *Endorsed by:*	**Identifier**	**Summary of major change**
February 2010	M1002.8-V1-R12	• First publication
August 2011	MN10.8-V2-R12	• New website. Name and format changes
July 2012	MN10.8-V3-R12	• Hydrochlorothiazide dose corrected • Reference to Neofax added
August 2013	MN13.8-V4-R18	• First review of key amendments: o Name of guideline changed from *Neonatal hypoglycaemia and blood glucose monitoring* to *Newborn hypoglycaemia* o BGL monitoring recommendations o Definition of severe hypoglycaemia o Addition of flow charts o Supplement published
June 2015	MN13.8-V5-R18	• Amendment: indications for the option of using glucose gel 10% included • Author changed to Queensland Clinical Guidelines • Front cover updated
September 2019 *QCG Steering Committee* *Statewide Maternity and Neonatal Clinical Network (QLD)*	MN19.8-V11-R24	• Full review • Additional information added about: o Use of glucose gel 40% and presentation of medication o Calculation and preparation of glucose concentrations for IV administration o Use of glucagon early in treatment o Reference to NeoMedQ monographs for medication doses and other information o BGL levels for baby greater than 24 hours and when to cease monitoring • Addition of nurse practitioner to review baby • Investigations prioritised • Information added about six hour fast test • Flowcharts separated into 3 levels of care-screening, BGL1.5 mmol/L–2.5 mmol/L and BGL less than 1.5 mmol/L

Publication date	Identifier	Summary of major change
October 2019	MN19.8-V11-R24	• Amendments o Flowchart: Risk factors in Preventative care of the well at risk (for hypoglycaemia) newborn baby Meconium stained liquor to meconium aspiration syndrome • Table 2 Maternal risk factors o Maternal medications—Terbutaline ▪ Words added *as tocolysis within previous 48 hours* o Maternal conditions—Maternal pre-eclampsia/eclampsia or hypertension or other conditions causing placental insufficiency ▪ Words added *from any cause* ▪ Reference amended
March 2021	MN19.8-V11-R24	• Amendment: 3.1 Screening and assessment of at risk baby (asymptomatic) Table 5 Screening o **From**: If glucometer BGL is less than or equal to 2 mmol/L, confirmation by a validated diagnostic testing method is recommended o **To**: If glucometer BGL is less than or equal to 2 mmol/L, confirmation by a validated diagnostic testing method is essential and urgent • Amendment: Supplement: Table 10. Clinical quality measures o **From**: Number of glucometer screenings less than 2 mmol/L confirmed by validated test o **To**: Number of glucometer screenings less than 2.6 mmol/L confirmed by validated test
June 2021	MN19.8-V11-R24	• Flowchart 1 Preventative care of the well at risk (for hypoglycaemia) newborn baby o **Added:** Consult with neonatologist if baby is symptomatic, unwell or BGL is less than 1.5 mmol/L • Flowchart 3 Management of neonatal hypoglycaemia (baby symptomatic or BGL < 1.5 mmol/L) o **From:** Consult with neonatologist if IV glucose > 10 mg/kg/minute or baby > 48 hours or BGL is difficult to control o **To:** Consult with paediatrician or neonatologist if IV glucose > 8 mg/kg/minute or baby 48 hours or BGL is difficult or requires medication to control • Section 4.4.1 BGL monitoring Table 11 BGL measurement **added**: o Consult with a paediatrician or neonatologist if at any time the BGL is: ▪ Less than 2.6 mmol/L more than three times **or** ▪ Less than 1.6 mmol/L more than two times ▪ Refer to Table 19 Ongoing long term management • Section 4.5 Intravenous glucose Table 13 IV fluids o **From:** Discuss baby's management with neonatologist via RSQ if glucagon or hydrocortisone is required: o **To:** Discuss baby's management with neonatologist via RSQ if glucagon or hydrocortisone, or other medication is required
September 2021	MN19.8-V11-R24	• Flowchart 1 Preventative care of the well at risk (for hypoglycaemia) newborn baby replaced with correct version

Publication date	Identifier	Summary of major change
March 2022	MN19.8-V11-R24	• Flowchart 3 Management of neonatal hypoglycaemia (baby symptomatic or BGL < 1.5 mmol/L) • **From:** Urgent treatment–administer glucagon and then IV 10% glucose o Give glucagon IM or subcut if IV access delayed by more than 10 minutes • **To:** Urgent treatment– o If asymptomatic or mild symptoms: ▪ Administer IV 10% glucose bolus ▪ Consider glucose gel 40% and breastfeed in addition ▪ Commence 10% glucose infusion at 60 mL/kg ▪ Give glucagon IM or subcut if IV access delayed by more than 15 minutes o If symptomatic or BGL not improving: ▪ Give glucagon IV (IM or subcut if IV access delayed by more than 15 minutes) ▪ Commence 10% glucose infusion at 80 mL/kg • Section 4.2 Initial management (first 48 hours of life): Table 8 o BGL less than 1.5 mmol/L or unrecordable–reworded to urgently give IV glucose bolus and commence 10% glucose infusion • Section 4.5.1 Regimen for glucose infusion o If asymptomatic/mild symptoms commence 10% glucose at 60 mL/kg o If symptomatic or BGL not improving commence 10% glucose at 80 mL/kg
June 2022	MN19.8-V12-R24	• Amendment Flowchart 3: Management of neonatal hypoglycaemia (baby symptomatic or BGL < 1.5 mmol/L) o Renamed **TO** Management of BGL less than 1.5 mmol/L or baby symptomatic o Amended to align with document text: Criteria for commencement of weaning IV therapy **FROM** BGL 2.6 mmol/L for more than 12 hours **TO** BGL 3.0 mmol/L for more than 12 hours. Duplicate label on outflow amended **FROM** yes **TO** no o Amended Urgent treatment **FROM** If asymptomatic or mild symptoms: ▪ Administer IV 10% glucose bolus ▪ Consider glucose gel 40% and breastfeed in addition ▪ Commence 10% glucose infusion at 60 mL/kg ▪ Give glucagon IM or subcut if IV access delayed by more than 15 minutes o If symptomatic or BGL not improving: ▪ Give glucagon IV (IM or subcut if IV access delayed by more than 15 minutes) ▪ Commence 10% glucose infusion at 80 mL/kg **TO** Commence 10% glucose infusion at 60 mL/kg/day ▪ If symptomatic or BGL not improving commence at 80 mL/kg/day o Give 10% glucose 1–2 mL/kg IV bolus ▪ Consider glucose gel 40% and breastfeed ▪ Recheck BGL after 30 minutes ▪ If BGL improving, continue 10% glucose IV adjust as needed

		o If symptomatic **or** BGL not improving ▪ Give glucagon IV ▪ Repeat BGL after 30 minutes and if required, repeat glucose bolus and glucagon o If IV access delayed > 15 minutes give glucagon IM or subcut • Added to Definitions: enteral feeding • Table 5 Screening: Last row split into two rows (new row: Validate BGL less than 2.6 mmol/L) no content change • Table 8: Initial management (first 48 hours of life) o References to NeoMedQ monographs rationalised to top of page o Third row (BGL less than 1.5 mmol/L or unrecordable) spilt into two rows (new row Difficult IV access) no content change o Last row: (Ceasing BGL monitoring) moved to new table: Ceasing BGL monitoring • Table 11: BGL monitoring o First row (BGL) split into 5 rows (no content change) o Last row (Ceasing BGL monitoring) moved to new table: Ceasing BGL monitoring • Table 12: Ceasing BGL monitoring o New table from content in Table 8 and Table 11 o Correction to criteria for ceasing after 48 hours **FROM** 3 mmol/L **TO** 3.3 mmol/L • Subsequent table numbering increased by 1 • Table 15: Medications o References updated to relevant NeoMedQ medicine monographs only • Minor formatting corrections through out
November 2023 *QCG Steering Committee* *Queensland Maternity and Neonatal Clinical Network*	MN23.8-V13-R28	• Full review of guideline • BGL targets redefined according to age of life • Prophylactic glucose gel 40% included as for babies with risk factors for hypoglycaemia • Increased emphasis on identification of baby requiring 6 hour fast test

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 was identified as a priority by the Statewide Maternity and Neonatal Clinical Network at a forum in 2009.

2.2 Scope

The scope of the guideline was determined using the following framework.

Table 2. Scope framework

Scope framework	
Population	Babies from birth to 28 days of age
Purpose	Identify relevant evidence related to: • Screening, prevention, assessment and management of hypoglycaemia
Outcome	Support: • Identification of babies 'at risk' for hypoglycaemia • Prevention and early detection of hypoglycaemia in 'at risk' babies • Best practice management of hypoglycaemia in the newborn
Exclusions	• Management of metabolic disorders (e.g. persistent hyperinsulinaemia, galactosaemia) • Management of sequelae of hypoglycaemia (e.g. neurological impairment) • Elements of care specific to Queensland Clinical Guideline *Standard care*[1]

2.3 Clinical questions

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

- What are the principles for management of neonatal hypoglycaemia?
- Which babies are at risk of hypoglycaemia in the immediate newborn period?
- What measures reduce the risk, or limit progression of hypoglycaemia?
- What is best practice treatment of hypoglycaemia?
- What is the best practice management of hypoglycaemia beyond the first 48 hours days of life?

2.4 Search strategy

A search of the literature was conducted during November to December 2022. The QCG search strategy is an iterative process that is repeated and amended as guideline development occurs (e.g. if additional areas of interest emerge, areas of contention requiring more extensive review are identified or new evidence is identified). All guidelines are developed using a basic search strategy. This involves both a formal and informal approach.

Table 3. Basic search strategy

Step		Consideration
1.	Review clinical guidelines developed by other reputable groups relevant to the clinical speciality	• This may include national and/or international guideline writers, professional organisations, government organisations, state-based groups. • This assists the guideline writer to identify: o The scope and breadth of what others have found useful for clinicians and informs the scope and clinical question development o Identify resources commonly found in guidelines such as flowcharts, audit criteria and levels of evidence o Identify common search and key terms o Identify common and key references
2.	Undertake a foundation search using key search terms	• Construct a search using common search and key terms identified during Step 1 above • Search the following databases o PubMed o CINAHL o Medline o Cochrane Central Register of Controlled Trials o EBSCO o Embase • Studies published in English less than or equal to 5 years previous are reviewed in the first instance. Other years may be searched as are relevant to the topic • Save and document the search • Add other databases as relevant to the clinical area
3.	Develop search word list for each clinical question	• This may require the development of clinical sub-questions beyond those identified in the initial scope. • Using the foundation search performed at Step 2 as the baseline search framework, refine the search using the specific terms developed for the clinical question • Save and document the search strategy undertaken for each clinical question
4.	Other search strategies	• Search the reference lists of reports and articles for additional studies • Access other sources for relevant literature o Known resource sites o Internet search engines o Relevant text books

2.4.1 Keywords

The following keywords were used in the basic search strategy: newborn, neonatal, infant, baby, low birth weight, hypoglycaemia, glycogen, neurological, breastfeeding, glucose gel, dextrose gel, hyperinsulinaemia.

Other keywords may have been used for specific aspects of the guideline.

2.5 Consultation

Major consultative and development processes occurred between February 2023 and November 2023. These are outlined in Table 4.

Table 4. 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 in April 2023 • The working party was recruited from responses received • Working party members who participated in the working party consultation processes are acknowledged in the guideline • Working party consultation occurred in a virtual group via email
Statewide consultation	• Consultation was invited from Queensland clinicians and stakeholders during April and October 2023 • Feedback was received primarily via email • All feedback was compiled and provided to the clinical lead and working party members for review and comment

2.6 Endorsement

The guideline was endorsed by the:

- Queensland Clinical Guidelines Steering Committee in November 2023
- Statewide Maternity and Neonatal Clinical Network [Queensland] in November 2023

2.7 Citation

The recommended citation of Queensland Clinical Guidelines is in the following format:

> Queensland Clinical Guidelines. [**Insert Guideline Title**]. Guideline No. [**Insert Guideline Number**]. Queensland Health. [**Insert Year of Publication**]. Available from: www.health.qld.gov.au/qcg.
>
> **EXAMPLE:**
> Queensland Clinical Guidelines. Normal birth. Guideline No. MN17.25-V3-R22. Queensland Health 2017. Available from: www.health.qld.gov.au/qcg.

3 Levels of evidence

Summary recommendations were informed by:

- Review of literature
- Expertise and experience of clinical leads and working party
- Statewide consultation
- Established Queensland Clinical Guidelines development process

3.1 Summary recommendations

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

Table 5. Summary recommendations

Recommendation		Grading of evidence
1	Screen babies at risk of hypoglycaemia	Consensus
2	Routine screening of appropriate-for-gestational-age infants at term is not recommended	Consensus
3	Administer glucose gel 40% and breastfeed babies with BGL 1.5 mmol/L–2.5 mmol/L[2]	High quality 4+ evidence (Cochrane Systematic Review)
4	Perform six hour fast test for babies with history of clinically significant hypoglycaemia, suggestion of congenital hypoglycaemia, or family history of hypoglycaemia	Consensus
5	Validate a screening glucometer BGL with a diagnostic test if BGL is less than target for age (2.6 mmol/L in the first 48 hours)	Consensus

4 Implementation

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

4.1 Guideline resources

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

- Flowchart: Management of the well newborn baby in the first 48 hours
- Flowchart: Critical neonatal hypoglycaemia in the first 48 hours
- Education resource: Hypoglycaemia–newborn
- Knowledge assessment: Hypoglycaemia–newborn
- Parent information: Hypoglycaemia in a newborn baby

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:

- Procedures and protocols on blood sampling from babies

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 2028

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 https://www.health.qld.gov.au/qcg

4.3.3 Implications for implementation

The following areas may have implications for local implementation of the guideline recommendations. It is suggested they be considered for successful guideline implementation.

- Economic considerations including opportunity costs
- Human resource requirements including clinician skill mix and scope of practice
- Clinician education and training
- Equipment and consumables purchase and maintenance
- Consumer acceptance
- Model of care and service delivery

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[3] [Refer to Table 6. NSQHS Standard 1]. Suggested audit and quality measures are identified in Table 7. Clinical quality measures.

Table 6. NSQHS Standard 1

NSQHS Standard 1: Clinical governance	
Clinical performance and effectiveness	
Criterion 1.27:	**Actions required:**
Evidence based care	a. Provide clinicians with ready access to best-practice guidelines, integrated care pathways, clinical pathways and decision support tools relevant to their clinical practice
	b. Support clinicians to use the best available evidence, including relevant clinical care standards developed by the Australian Commission on Safety and Quality in Health Care

The following clinical quality measures are suggested:

Table 7. Clinical quality measures

No	Audit criteria	Guideline Section
1a 1b 1c	Among healthy well newborn babies with risk factors for hypoglycaemia: • What proportion had a temperature below 36.5 °C in the first 24 hours of life? • What proportion had a first oral feed by 60 minutes of age? • What proportion received recommended BGL screening in the first 24 hours of life?	Section 2.1 Risk minimisation
2.	Among healthy well newborn babies who had a BGL 1.5 to 2.5 mmol/L in the first 48 hours of life: • What proportion had the initial glycaemic support pathway initiated (i.e. glucose gel 40% followed by feed, clinical review and increased surveillance)?	Section 2.2 Initial management of otherwise well baby (BGL 1.5–2.5 mmol/L)
3.	What proportion of BGL less than 2.6 mmol/L performed on a non-enzymatic glucometer, were validated with a diagnostic test?	Section 1.2 Principles of hypoglycaemia management

4.5 Areas for future research

During development some areas where identified as having limited or poor quality evidence to inform clinical decision making. Further research in these areas may be useful.

- Criteria/indications for 6 hour fast test
- Optimal volume (mL/kg) of 10% glucose bolus when BGL below target

Safety and quality

In conjunction with the Queensland Clinical Guideline *Standard care*[1], implementation of this guideline provides evidence of compliance with the National Safety and Quality Health Service Standards.[3]

Table 8. NSQHS

NSQHS Criteria	Actions required	☑ Evidence of compliance
NSQHS Standard 1: Clinical governance		
Patient safety and quality systems Safety and quality systems are integrated with governance processes to enable organisations to actively manage and improve the safety and quality of health care for patients.	**Diversity and high risk groups** 1.15 The health service organisation: a. Identifies the diversity of the consumers using its services b. Identifies groups of patients using its services who are at higher risk of harm c. Incorporates information on the diversity of its consumers and higher-risk groups into the planning and delivery of care	☑ Assessment and care appropriate to the cohort of patients is identified in the guideline ☑ High risk groups are identified in the guideline ☑ The guideline is based on the best available evidence
Clinical performance and effectiveness The workforce has the right qualifications, skills and supervision to provide safe, high-quality health care to patients.	**Evidence based care** 1.27 The health service organisation has processes that: a. Provide clinicians with ready access to best-practice guidelines, integrated care pathways, clinical pathways and decision support tools relevant to their clinical practice b. Support clinicians to use the best available evidence, including relevant clinical care standards developed by the Australian Commission on Safety and Quality in Health Care	☑ Queensland Clinical Guidelines is funded by Queensland Health to develop clinical guidelines relevant to the service line to guide safe patient care across Queensland ☑ The guideline provides evidence-based and best practice recommendations for care ☑ The guideline is endorsed for use in Queensland Health facilities. ☑ A desktop icon is available on every Queensland Health computer desktop to provide quick and easy access to the guideline
	Performance management 1.22 The health service organisation has valid and reliable performance review processes that: a. Require members of the workforce to regularly take part in a review of their performance b. Identify needs for training and development in safety and quality c. Incorporate information on training requirements into the organisation's training system	☑ 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 https://www.health.qld.gov.au/qcg

NSQHS Criteria	Actions required	☑ Evidence of compliance
NSQHS Standard 1: Clinical governance		
Patient safety and quality systems Safety and quality systems are integrated with governance processes to enable organisations to actively manage and improve the safety and quality of health care for patients.	**Policies and procedures** 1.7 The health service organisation uses a risk management approach to: a. Set out, review, and maintain the currency and effectiveness of, policies, procedures and protocols b. Monitor and take action to improve adherence to policies, procedures and protocols c. Review compliance with legislation, regulation and jurisdictional requirements	☑ QCG has established processes to review and maintain all guidelines and associated resources ☑ Change requests are managed to ensure currency of published guidelines ☑ Implementation tools and checklist are provided to assist with adherence to guidelines ☑ Suggested audit criteria are provided in guideline supplement ☑ The guidelines comply with legislation, regulation and jurisdictional requirements
NSQHS Standard 2: Partnering with Consumers		
Health literacy Health service organisations communicate with consumers in a way that supports effective partnerships.	**Communication that supports effective partnerships** 2.8 The health service organisation uses communication mechanisms that are tailored to the diversity of the consumers who use its services and, where relevant, the diversity of the local community 2.9 Where information for patients, carers, families and consumers about health and health services is developed internally, the organisation involves consumers in its development and review 2.10 The health service organisation supports clinicians to communicate with patients, carers, families and consumers about health and health care so that: a. Information is provided in a way that meets the needs of patients, carers, families and consumers b. Information provided is easy to understand and use c. The clinical needs of patients are addressed while they are in the health service organisation d. Information needs for ongoing care are provided on discharge	☑ Consumer consultation was sought and obtained during the development of the guideline. Refer to the acknowledgement section of the guideline for details ☑ Consumer information is developed to align with the guideline and included consumer involvement during development and review ☑ The consumer information was developed using plain English and with attention to literacy and ease of reading needs of the consumer
Partnering with consumers in organisational design and governance Consumers are partners in the design and governance of the organisation.	**Partnerships in healthcare governance planning, design, measurement and evaluation** 2.11 The health service organisation: a. Involves consumers in partnerships in the governance of, and to design, measure and evaluate, health care b. Has processes so that the consumers involved in these partnerships reflect the diversity of consumers who use the service or, where relevant, the diversity of the local community 2.14 The health service organisation works in partnership with consumers to incorporate their views and experiences into training and education for the workforce	☑ Consumers are members of guideline working parties ☑ The guideline is based on the best available evidence ☑ The guidelines and consumer information are endorsed by the QCG and Queensland Statewide Maternity and Neonatal Clinical Network Steering Committees which includes consumer membership

NSQHS Criteria	Actions required	☑ Evidence of compliance
NSQHS Standard 2: Partnering with Consumers		
Partnering with consumers in their own care Patients are partners in their own care to the extent that they choose	**Healthcare rights and informed consent** 2.4 The health service organisation ensures that its informed consent processes comply with legislation and best practice 2.5 The health service organisation has processes to identify: a. The capacity of a patient to make decisions about their own care b. A substitute decision-maker if a patient does not have the capacity to make decisions for themselves	☑ This guideline and consumer information provides information for consumers to make informed decisions ☑ This guideline promotes informed consent
	Shared decisions and planning care 2.6 The health service organisation has processes for clinicians to partner with patients and/or their substitute decision-maker to plan, communicate, set goals, and make decisions about their current and future care 2.7 The health service organisation supports the workforce to form partnerships with patients and carers so that patients can be actively involved in their own care	☑ Consumer information is available for this guideline ☑ Consumers are members of guideline working parties
NSQHS Standard 3:Infection prevention and control systems		
Clinical governance and quality improvement to prevent and control healthcare-associated infections, and support antimicrobial stewardship Systems are in place to support and promote prevention and control of healthcare-associated infections, and improve antimicrobial stewardship.	**Integrating clinical governance** 3.1The workforce uses the safety and quality systems from the Clinical Governance Standard when: a. Implementing policies and procedures for healthcare-associated infections and antimicrobial stewardship b. Managing risks associated with healthcare-associated infections and antimicrobial stewardship	☑ The guideline provides evidence-based and best practice recommendations for care ☑ Recommendations for use of antimicrobials are evidence based
Infection prevention and control systems Patients presenting with, or with risk factors for, infection or colonisation with an organism of local, national or global significance are identified promptly, and receive the necessary management and treatment.	**Standard and transmission-based precautions** 3.6 Clinicians assess infection risks and use transmission-based precautions based on the risk of transmission of infectious agents, and consider: a. Patients' risks, which are evaluated at referral, on admission or on presentation for care, and re-evaluated when clinically required during care	☑ The guideline provides evidence-based and best practice recommendations for care ☑ Assessment and care appropriate to the cohort of patients is identified in the guideline ☑ High risk groups are identified in the guideline if applicable
Antimicrobial stewardship Systems are implemented for safe and appropriate prescribing and use of antimicrobials as part of an antimicrobial stewardship program	**Antimicrobial stewardship** 3.15 The health service organisation has an antimicrobial stewardship program that: a. Includes an antimicrobial stewardship policy b. Provides access to, and promotes the use of, current evidence-based Australian therapeutic guidelines and resources on antimicrobial prescribing	☑ The guideline provides evidence-based and best practice recommendations for care ☑ Recommendations for use of antimicrobials are evidence based ☑ If applicable, Australian therapeutic guidelines and resources were used to develop guideline recommendations

NSQHS Criteria	Actions required	☑ Evidence of compliance
NSQHS Standard 4: Medication safety		
Clinical governance and quality improvement to support medication management Organisation-wide systems are used to support and promote safety for procuring, supplying, storing, compounding, manufacturing, prescribing, dispensing, administering and monitoring the effects of medicines	**Integrating clinical governance** 4.1 Clinicians use the safety and quality systems from the Clinical Governance Standard when: a. Implementing policies and procedures for medication management b. Managing risks associated with medication management c. Identifying training requirements for medication management	☑ The guideline provides current evidence based recommendations about medication
NSQHS Standard 5: Comprehensive care		
Clinical governance and quality improvement to support comprehensive care Systems are in place to support clinicians to deliver comprehensive care	**Integrating clinical governance** 5.1 Clinicians use the safety and quality systems from the Clinical Governance Standard when: a. Implementing policies and procedures for comprehensive care b. Managing risks associated with comprehensive care c. Identifying training requirements to deliver comprehensive care **Partnering with consumers** 5.3 Clinicians use organisational processes from the Partnering with Consumers Standard when providing comprehensive care to: a. Actively involve patients in their own care b. Meet the patient's information needs c. Share decision-making	☑ 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 https://www.health.qld.gov.au/qcg ☑ The guideline provides evidence-based and best practice recommendations for care ☑ Consumer information is developed for the guideline

NSQHS Criteria	Actions required	☑ Evidence of compliance
NSQHS Standard 6: Communicating for safety		
Clinical governance and quality improvement to support effective communication Systems are in place for effective and coordinated communication that supports the delivery of continuous and safe care for patients.	**Integrating clinical governance** 6.1 Clinicians use the safety and quality systems from the Clinical Governance Standard when: a. Implementing policies and procedures to support effective clinical communication b. Managing risks associated with clinical communication c. Identifying training requirements for effective and coordinated clinical communication **Partnering with consumers** 6.3 Clinicians use organisational processes from the Partnering with Consumers Standard to effectively communicate with patients, carers and families during high-risk situations to: a. Actively involve patients in their own care b. Meet the patient's information needs c. Share decision-making **Organisational processes to support effective communication** 6.4 The health service organisation has clinical communications processes to support effective communication when: a. Identification and procedure matching should occur b. All or part of a patient's care is transferred within the organisation, between multidisciplinary teams, between clinicians or between organisations; and on discharge c. Critical information about a patient's care, including information on risks, emerges or changes	☑ Requirements for effective clinical communication by clinicians are identified ☑ The guideline provides evidence-based and best practice recommendations for communication between clinicians ☑ The guideline provides evidence-based and best practice recommendations for communication with patients, carers and families ☑ The guideline provides evidence-based and best practice recommendations for discharge planning and follow –up care
Communication of critical information Systems to effectively communicate critical information and risks when they emerge or change are used to ensure safe patient care.	**Communicating critical information** 6.9 Clinicians and multidisciplinary teams use clinical communication processes to effectively communicate critical information, alerts and risks, in a timely way, when they emerge or change to: a. Clinicians who can make decisions about care b. Patients, carers and families, in accordance with the wishes of the patient 6.10 The health service organisation ensures that there are communication processes for patients, carers and families to directly communicate critical information and risks about care to clinicians	☑ Requirements for effective clinical communication of critical information are identified ☑ Requirements for escalation of care are identified

NSQHS Criteria	Actions required	☑ Evidence of compliance
NSQHS Standard 6: Communicating for safety (continued)		
Correct identification and procedure matching Systems to maintain the identity of the patient are used to ensure that the patient receives the care intended for them.	**Correct identification and procedure matching** 6.5 The health service organisation: a. Defines approved identifiers for patients according to best-practice guidelines b. Requires at least three approved identifiers on registration and admission; when care, medication, therapy and other services are provided; and when clinical handover, transfer or discharge documentation is generated	☑ Requirements for safe and for correct patient identification are identified
Communicating at clinical handover Processes for structured clinical handover are used to effectively communicate about the health care of patients.	**Clinical handover** 6.7 The health service organisation, in collaboration with clinicians, defines the: a. Minimum information content to be communicated at clinical handover, based on best-practice guidelines b. Risks relevant to the service context and the particular needs of patients, carers and families c. Clinicians who are involved in the clinical handover 6.8 Clinicians use structured clinical handover processes that include: a. Preparing and scheduling clinical handover b. Having the relevant information at clinical handover c. Organising relevant clinicians and others to participate in clinical handover d. Being aware of the patient's goals and preferences e. Supporting patients, carers and families to be involved in clinical handover, in accordance with the wishes of the patient f. Ensuring that clinical handover results in the transfer of responsibility and accountability for care	☑ The guideline acknowledges the need for local protocols to support transfer of information, professional responsibility and accountability for some or all aspects of care

NSQHS Criteria	Actions required	☑ Evidence of compliance
NSQHS Standard 7: Blood management		
Clinical governance and quality improvement to support blood management Organisation-wide governance and quality improvement systems are used to ensure safe and high-quality care of patients' own blood, and to ensure that blood product requirements are met.	**Integrating clinical governance** 7.1 Clinicians use the safety and quality systems from the Clinical Governance Standard when: a. Implementing policies and procedures for blood management b. Managing risks associated with blood management c. Identifying training requirements for blood management	☑ The guideline provides evidence-based and best practice recommendations for use of blood products
Prescribing and clinical use of blood and blood products The clinical use of blood and blood products is appropriate, and strategies are used to reduce the risks associated with transfusion.	**Optimising and conserving patients' own blood** 7.4 Clinicians use the blood and blood products processes to manage the need for, and minimise the inappropriate use of, blood and blood products by: a. Optimising patients' own red cell mass, haemoglobin and iron stores b. Identifying and managing patients with, or at risk of, bleeding c. Determining the clinical need for blood and blood products, and related risks **Prescribing and administering blood and blood products** 7.6 The health service organisation supports clinicians to prescribe and administer blood and blood products appropriately, in accordance with national guidelines and national criteria	☑ The guideline provides evidence-based and best practice recommendations for use of blood products ☑ The guideline is consistent with recommendations of national guidelines

NSQHS Criteria	Actions required	☑ Evidence of compliance
NSQHS Standard 8: Recognising and responding to acute deterioration		
Clinical governance and quality improvement to support recognition and response systems Organisation-wide systems are used to support and promote detection and recognition of acute deterioration, and the response to patients whose condition acutely deteriorates.	**Integrating clinical governance** 8.1 Clinicians use the safety and quality systems from the Clinical Governance Standard when: a. Implementing policies and procedures for recognising and responding to acute deterioration b. Managing risks associated with recognising and responding to acute deterioration c. Identifying training requirements for recognising and responding to acute deterioration **Partnering with consumers** 8.3 Clinicians use organisational processes from the Partnering with Consumers Standard when recognising and responding to acute deterioration to: a. Actively involve patients in their own care b. Meet the patient's information needs c. Share decision-making **Recognising acute deterioration** 8.4 The health service organisation has processes for clinicians to detect acute physiological deterioration that require clinicians to: a. Document individualised vital sign monitoring plans b. Monitor patients as required by their individualised monitoring plan c. Graphically document and track changes in agreed observations to detect acute deterioration over time, as appropriate for the patient	☑ The guideline is consistent with National Consensus statements recommendations ☑ The guideline recommends use of tools consistent with the principles of recognising and responding to clinical deterioration ☑ Consumer information is developed for the guideline

References

1. Queensland Clinical Guidelines. Standard care. Guideline No. MN22.50-V2-R27. [Internet]. Queensland Health. 2022. [cited 2023 October 04]. Available from: https://www.health.qld.gov.au/qcg.
2. Hegarty JE, Harding JE, Crowther CA, Brown J, Alsweiler J. Oral dextrose gel to prevent hypoglycaemia in at-risk neonates. Cochrane Database of Systematic Reviews. [Internet]. 2017, Issue Issue 7. Art No.: CD012152. DOI:10.1002/14651858.CD012152.pub2.
3. Australian Commission on Safety and Quality in Health Care. National Safety and Quality Health Service Standards [Internet]. 2017 [cited 2023 October 04]. Available from: https://www.safetyandquality.gov.au.