Shropshire Community Health NHS
NHS Trust

Document Details		
Title		**Management of Hypoglycaemia Guideline**
Trust Ref No		1568-60285
Local Ref (optional)		
Main points the document covers		This Guideline covers the treatment of hypoglycaemia in patients with Diabetes Mellitus
Who is the document aimed at?		All Staff
Owner		Holly Wingrove
Approval process		
Who has been consulted in the development of this policy?		This Guideline has been developed by the Diabetes Specialist Nursing team in consultation with other Trust staff.
Approved by (Committee/Director)		Clinical Policies Group
Approval Date		10/06/2020
Initial Equality Impact Screening		Yes
Full Equality Impact Assessment		No
Lead Director		Steve Gregory, Director of Nursing and Operations
Category		Clinical
Sub Category		Diabetes
Review date		10/06/2023
Distribution		
Who the policy will be distributed to		All Staff
Method		Via Trust Intranet and notification to service managers
Keywords		Diabetes, Hypoglycaemia
Document Links		
Required by CQC		Outcome 4
Other		None
Amendments History		
No	Date	Amendment
1	Apr 2012	Updating of guideline from 10g to 15g Carbohydrate rescue doses in line with new national guidance 2011
2	Aug 2013	Updating & addition of hypoglycaemia flow chart
3	August 2015	Review and simplification of updated flowchart
4	April 2017	Updating the quantity of Lucozade Energy™ required to provide 15-20g Carbohydrate with new formulation
5	June 2020	Updated with minimal changes –options for fast acting glucose and flowchart and references

Policies, Procedures, Guidelines and Protocols

Contents

1 Introduction

Hypoglycaemia in a person with Diabetes Mellitus is defined as a blood glucose level less than 4mmols/l (Diabetes UK 2012). It can be defined as mild if the episode is self treated or severe of if assistance is required by a third party (Diabetes Control and Complications Trial (DCCT) 1993)

2 Purpose

The purpose of this document is to provide guidance to staff in order to identify and treat hypoglycaemia safely and appropriately in a person with Diabetes Mellitus.

3 Definitions

- **Hypoglycaemia:** A blood glucose level less than 4mmols/l (Diabetes UK 2012)
- **Diabetes Mellitus:** A long term condition which is characterized by the raised levels of plasma glucose. This glucose abnormality is due to an absolute or relative lack of Insulin being produced by the pancreas (Diabetes UK 2012)
- **Registered Nurse:** is professionally accountable for the delegation of the task
- **Non-registered practitioner:** is defined as a health care assistant (HCA) or a health care support worker.

Abbreviations:

- HCA: Health Care Assistant
- IDT: Interdisciplinary Team
- NMC: Nursing and Midwifery Council
- RCN: Royal College of Nursing
- SCHT: Shropshire Community Health NHS Trust
- SPIC: Shropshire Partners in Care

4 Duties

All Staff who provide diabetes care to patients using insulin, sulphonylurea or post prandial regulator therapy have a responsibility to ensure their knowledge is up to date in the treatment of hypoglycaemia as described by 'An **integrated career and competency framework for diabetes nursing'** 4th edition **Trend** UK (2015)and that they have read this policy.

All registered nursing staff delegating diabetes care duties to non-registered practitioners must ensure that they are competent to identify and treat hypoglycaemia (NMC 2018 & RCN 2017) as stated by the skills for health competency and must assess the competency using Shropshire Community NHS Trust Hypoglycaemia summative assessment form (Appendix 2)

5 Assessment

Confirm blood glucose levels by performing capillary blood glucose test (see Capillary Blood Glucose Monitoring Policy /Guidelines)

Staff should be competent as indicated by completion of the Hypoglycaemia summative assessment (Appendix 2).

6 Recognition of Hypoglycaemia

Consider hypoglycaemia in any patient with acute agitation, abnormal behaviour and impaired consciousness.

Hypoglycaemia before a meal must be treated prior to the person with diabetes eating their food.

7 Signs and Symptoms of Hypoglycaemia

These can be divided into 2 categories as follows:

7.1 Mild Hypoglycaemia/ Adrenergic: Symptoms

- Sweating
- Trembling
- Tingling lips, tongue, hands or feet
- Hunger
- Blurred Vision
- Palpitations
- Headache

Treatment (Appendix 1)

Give 15-20g quick acting carbohydrate such as

- 5-6 dextrose tablets
- 4-5 Glucotabs
- 1½ -2 tubes (25g tubes) of 40% Glucogel™
- 1 bottle Glucojuice™ (60ml)
- 50-70mls Fortijuice™
  150-200ml pure smooth orange juice

If these are not available then use:

- 150mls-200mls of sugary fizzy drink e.g. Coca Cola ™
- 3-4 teaspoons of sugar dissolved in water
- 5 Large Jelly babies

Retest blood glucose level after 10 minutes

If blood glucose is still under 4 mmols/l repeat the treatment up to 3 times

Once blood glucose level above 4mmols/l ensure patient has a snack containing 15-20g carbohydrate such as:

- 2 plain biscuits (e.g. Digestives)
- 1 slice bread
- A piece of fruit
- If just before a meal then the meal should be served

Treatment for Children

- Give 10-20 g fast acting glucose depending on the size of the child
- Wait 15minutes before retesting
- If on an insulin pump treatment follow on starchy snack not required

7.2 Severe Hypoglycaemia / Neuroglycopenic: Symptoms

- Odd Behaviour e.g. rudeness or spontaneous laughter
- Bad temper or moodiness
- Appears to be under the influence of alcohol i.e. drunk
- Aggressive behaviour
- Confusion

- Passing out
- Unconsciousness
- Drowsiness
- Speech Difficulties
- Lack of Co-ordination

Treatment

Give 15-20g quick acting carbohydrate such as

- 5-6 dextrose tablets
- 4-5 Glucotabs™
- 1½ -2 tubes (25g tubes) of 40% Glucogel ™
- 1 bottle Glucojuice (60ml) ™
- 50-70mls Fortijuice™
- 150-200ml pure smooth orange juice

If these are not available then use:

- 150mls-200mls of sweetened fizzy drink e.g. Coca Cola ™
- 3 -4 teaspoons of sugar dissolved in water
- 5 Large Jelly babies

Retest blood glucose after 10 minutes and if blood **glucose level is still below 4mmol/l** repeat up to 3 cycles using the above treatment options

If person is unable to swallow or losing consciousness

- Call urgent medical assistance e.g. 999 for paramedics
- Administer GlucaGen Hypokit if available as per manufacturers instructions
- For paediatric patients usually require 0.5mgs refer to BNF for exact dosing

Once blood glucose level above 4mmols ensure patient has a snack containing 15-20g carbohydrate such as:

- 2 plain biscuits (e.g. Digestives)
- 1 slice bread
- A piece of fruit
- If just before a meal then the meal should be served

See flow chart (Appendix 1)

8 Subsequent Management

- Document event and management in nursing documentation
- Inform client's General Practitioner (GP)
- Seek cause of hypoglycaemia e.g. missed meals, late meals, exercise/increased activity
- Review maintenance treatment of diabetes

9 Consultation

This Guideline has been developed by the Diabetes Specialist Nursing Service in consultation with:

- Susan Watkins Chief Pharmacist, (SCHT)
- Shropshire Community Diabetes Specialist Nurses: Rebecca Lennon, & Noreen Eccles
- Alan Ferguson Record Manager & Quality Facilitator, (SCHT)
- Angela Cook Head of Nursing & Quality (Adults)

- Leeane Morgan (Ward Manager)
- Phil Atkins (MIU Clinical Lead)
- Suzanne Digwood (PDSN)

The following documents were also referred to in the writing of this guideline;

- JPDS-IP (2018) The Hospital Management of Hypoglycaemia in Adults with Diabetes Mellitus 3rd edition : revised April 2018
- TREND -UK **(2015) An** integrated career and competency framework for diabetes nursing' **5th edition**
- TREND-UK (2015) Hypoglycaemia in Adults the Community: Recognition, Treatment & Prevention
- TREND-UK Keeping safe with insulin therapy https://trend-uk.org/portfolio/keeping-safe-with-insulin-therapy/ (2020)

10 Dissemination and Implementation

These guidelines will be disseminated by the following methods:

- Managers Informed via DATIX system who then confirm they have disseminated to staff as appropriate
- Staff via Inform
- Diabetes Link Nurses /Think Glucose Champions
- Published to the staff zone of the trust website

11 Training

Training on the identification and treatment of hypoglycaemia is available via Shropshire Community Health NHS Trust Diabetes courses Diabetes Awareness Module, Managing Diabetes with Tablet and Insulin, and Insulin Administration for Health Care Assistants. A competency assessment document can be used to support Trust staff with the teaching and assessment of hypoglycaemia management (Appendix 2)

Training resources via e-learning:

- Safe use of Insulin accessed via ESR
- TREND-UK (2020) Hypoglycaemia in Adults the Community: Recognition, Treatment & Prevention

12 Monitoring Compliance

Compliance of this Guideline will be carried out by:

- Monitoring of related Datix incident reports carried out by service managers
- Following incident reporting follow up actions will be coordinated by service managers and the community Trust Safety Manager.

13 References

- Diabetes UK Hypoglycaemia Available on line from http:// http://www.diabetes.org.uk/Guide-to-diabetes/Complications/Hypoglycaemia (Accessed 27.12.2018)
- Department of Health (2004)The NHS Knowledge and Skills Framework (NHS KSF), available from www.nhsemployers.org/agendaforchange (accessed 27.12.2018)

- JBDS-IP (2010) The hospital management of Hypoglycaemia in Adults with Diabetes Mellitus. 3rd edition Revised 2018
- TREND-UK (2020) Keeping safe with insulin therapy https://trend-uk.org/portfolio/keeping-safe-with-insulin-therapy/
- NMC (2018) Delegation and accountability. Supplementary information to the NMC code . London: NMC. Available online from: https://www.nmc.org.uk/globalassets/sitedocuments/nmc-publications/delegation-and-accountability-supplementary-information-to-the-nmc-code.pdf. Accessed 05.03.19
- Royal Pharmaceutical Society (2018) Professional guidance on the safe and secure handling of medicines
- Royal Pharmaceutical Society and Royal College of Nursing (2019) Professional guidance on the administration of medicines in healthcare settings
- HEE (2019) Advisory guidance on administration of medicines by nursing associates
- NMC (2018) The NMC The Code: Professional standards of practice and behaviour for Nurses & Midwives. NMC: London
- RCN (2017) Accountability & Delegation: a guide for the nursing team RCN: London Available [online] from https://www.rcn.org.uk/professional-development/publications/pub-006465 (accessed 27.12.2018)
- RCN (2017) Accountability & Delegation Checklist Available from https://www.rcn.org.uk/professional-development/publications/pub-006465 (accessed 27.12.2018)
- The Diabetes Control & Complications Trial Research Group (1993) The effect of intensive treatment of diabetes on the development of and progression of long term complications in insulin dependent diabetes mellitus. New England Journal of Medicine 329: 977-986
- TREND-UK (2020) Hypoglycaemia in Adults the Community: Recognition, Treatment & Prevention https://trend-uk.org/wp-content/uploads/2018/09/HCP_Hypo_TREND_FINAL.pdf

14 Associated Documents

This guideline may be used in conjunction with the following policies and guidelines:

- Capillary Blood Glucose Monitoring Guideline
- Consent to Examination or Treatment Policy 2018Diagnostic and Screening Policy
- Incident Reporting Policy
- Prevention and Management of Needle-stick Injuries: including Inoculation Incidents and Exposures to Blood Borne Viruses (BBV) Policy

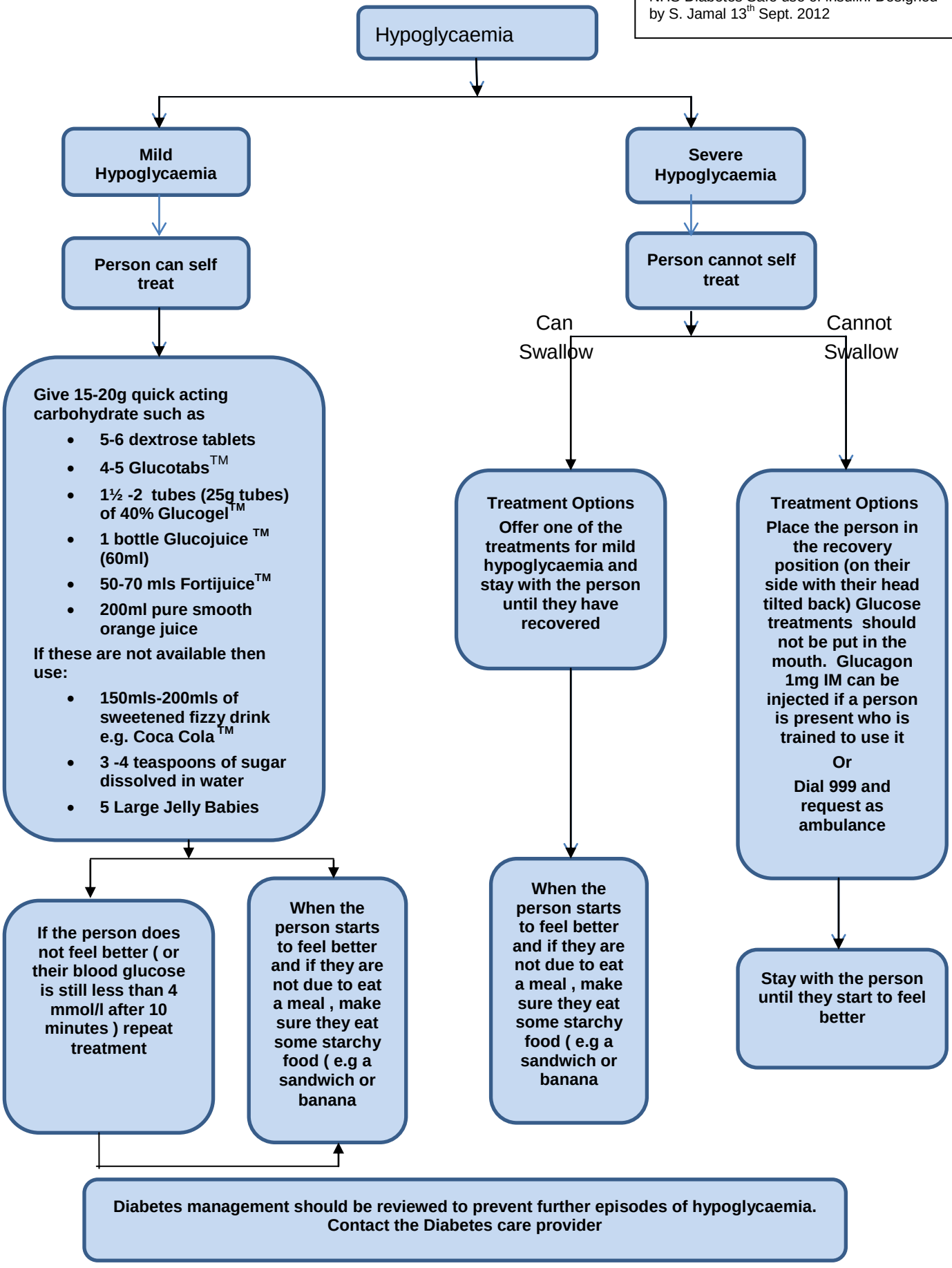
15 List of Appendices

Appendix 1: Hypoglycaemia Management Flow Chart

Appendix 2: Hypoglycaemia Management Competency Assessment

APPENDIX 1 : Hypoglycaemia Management Flow Chart

Hypoglyacemia flow charts reproduced from NHS Diabetes Safe use of insulin. Designed by S. Jamal 13th Sept. 2012



Appendix 2: Hypoglycaemia Management Competency Assessment

Competency: The Management of Hypoglycaemia

Name:	**Role:**
Base:	**Date initial training completed:**

Competency Statement:

The participant demonstrates clinical knowledge and skill "The Management of Hypoglycaemia".

Assessment in practice must be by a Registered Clinician who can demonstrate competence at level 2 or above.

Competent Practitioner Level 2 Descriptor: Can perform this activity with understanding of theory and practice principles without assistance and/or direct supervision, at an appropriate pace and adhering to evidence based practice.

		✓
Level 1 Responsible for delivering agreed programmes of care, under the supervision of a registered practitioner	State the normal blood glucose range and describe the level at which it would be appropriate to treat as hypoglycaemia.	
	Recognise which individuals are at risk of hypoglycaemia.	
	Describe the signs and symptoms of hypoglycaemia, including both mild and severe.	
	Recognise that some people may not demonstrate or recognise clear signs and symptoms of hypoglycaemia (e.g. older people, those with longer duration of diabetes and those who have experienced recurrent episodes of hypoglycaemia).	
	Demonstrate competent use of blood glucose monitoring equipment to confirm hypoglycaemia.	
	Know how to access and administer appropriate treatment for hypoglycaemia as per local guidelines.	
	Document and report the hypoglycaemic event to a registered HCP.	
	If the person is unresponsive, ensure their airway is clear and call emergency services.	
Level 2 Responsible for Co-ordinating and delivering effective quality clinical care following a patient centred model of practice and ensuring the work area runs	**Level 1 and:**	
	Recognise and provide appropriate treatment for the different levels of hypoglycaemia.	
	Describe the possible causes of hypoglycaemia and any factors that can increase risk (e.g. alcohol consumption, increased physical activity and poor injection sites).	
	Ensure episodes of hypoglycaemia are followed up appropriately and according to local policies.	
	If using insulin therapy, check injection technique and injection sites according to recommended correct practice (refer to the The FIT UK Injection Technique Recommendations, 4th edition).	

smoothly		
	Describe methods of hypoglycaemia avoidance and explain how to implement these to minimise risk. Identify medications most likely to cause hypoglycaemia	
	Describe what should be done if hypoglycaemia is not resolved and blood glucose levels remain low.	
	Demonstrate knowledge of current driving regulations and how they relate to hypoglycaemia (see DVLA, 2018).	
	Ensure appropriate hypoglycaemia treatments are accessible to individuals and in date.	
	Be aware of appropriate and recommended blood glucose targets for people with Type 1 and Type 2 diabetes, and during pregnancy.	
	Be aware when tight glycaemic control is not recommended (e.g. in the frail or older person or those in end-of-life care).	

Assessment of Proficiency in Clinical Competency

Assessment of professional practice is an on-going process that embraces a variety of different methods:

Benner's Stages of Clinical Competence: Novice to Expert (1984)

Benner's model explains how nurses develop skills and an understanding of patient care over time from a combination of a strong educational foundation and personal experiences. Each step builds from the previous one as these abstract principles are expanded by experience, and the nurse gains clinical experience. There should be sufficient evidence, documented and commented on by the assessor to determine that each domain of practice has been achieved.

Assessment Criteria	
Stage 1 Novice	The Novice or beginner has no experience in the situations in which they are expected to perform. The Novice lacks confidence to demonstrate safe practice and requires continual verbal and physical cues. Practice is within a prolonged time period and he/she is unable to use discretionary judgement.
Stage 2 Advanced Beginner	Advanced Beginners demonstrate marginally acceptable performance because the nurse has had prior experience in actual situations. He/she is efficient and skilful in parts of the practice area, requiring occasional supportive cues. May/may not be within a delayed time period. Knowledge is developing.
Stage 3 Competent	Competence is demonstrated by the nurse who has been on the job in the same or similar situations for two or three years. The nurse is able to demonstrate efficiency, is coordinated and has confidence in his/her actions. For the Competent nurse, a plan establishes a perspective, and the plan is based on considerable conscious, abstract, analytic contemplation of the problem. The conscious, deliberate

	planning that is characteristic of this skill level helps achieve efficiency and organisation. Care is completed within a suitable time frame without supporting cues.
Stage 4 Proficient	The Proficient nurse perceives situations as wholes rather than in terms of chopped up parts or aspects. Proficient nurses understand a situation as a whole because they perceive its meaning in terms of long-term goals. The Proficient nurse learns from experience what typical events to expect in a given situation and how plans need to be modified in response to these events. The Proficient nurse can now recognise when the expected normal picture does not materialise. This holistic understanding improves the Proficient nurse's decision making; it becomes less laboured because the nurse now has a perspective on which of the many existing attributes and aspects in the present situation are the important ones
Stage 5 The Expert	The Expert nurse has an intuitive grasp of each situation and zeroes in on the accurate region of the problem without wasteful consideration of a large range of unfruitful, alternative diagnoses and solutions. The Expert operates from a deep understanding of the total situation. His/her performance becomes fluid and flexible and highly proficient. Highly skilled analytic ability is necessary for those situations with which the nurse has had no previous experience.

Benner, P. (1984). From novice to expert: Excellence and power in clinical nursing practice. Menlo Park.

Steinaker and Bell's Experiential Taxonomy

Steinaker and Bell's Experiential Taxonomy (1979) which provides an experiential framework that can be utilised for planning experiences and charting your achievement to the required level of proficiency. There should be sufficient evidence, documented and commented on by the assessor to determine that each domain of practice has been achieved.

Assessment Criteria	
Exposure (E)	The Practitioner will have observed a competent mentor/ practitioner carry out aspects of care and demonstrate willingness and an ability to relate the observed practice to own previous experience and underlying theory. The Practitioner is able to analyse and discuss with their mentor why and how certain aspects of care were carried out, and identifies sources and types of information required enhancing further application of knowledge to the practice observed. (Steinaker and Bell, 1979).
Participation (P)	The Practitioner is able to participate under close supervision of a competent practitioner /mentor in carrying out aspects of care, having demonstrated knowledge through discussion and analysis. The Practitioner seeks to develop further understanding by questioning the practitioner on aspects of care, including its rationale; decision-making processes; and practical skills. Under the guidance of a competent

	practitioner/mentor the Practitioner demonstrates an ability to initiate communication, perform skills/tasks and utilizing problem solving skills. Opportunities for acquiring further information and for developing practice are identified. (Steinaker and Bell, 1979).
Identification (I)	The Practitioner demonstrates the ability to participate in the delivery of care under supervision on a more sustained basis with less prompting and greater confidence. Shows a greater ability to communicate effectively. Demonstrates a wish to acquire further information and the ability to analyse and interpret information. Applies problem solving skills and knowledge base to meet different situations. (Steinaker and Bell, 1979).
Internalisation (IN) **(minimum requirement)**	The Practitioner is able to explain the rationale for actions undertaken. Requires less supervision whilst caring for a group of patients/clients, is able to transfer knowledge to new situations. Seeks and applies new knowledge and research findings, demonstrates ability to use problem solving skills, critical analysis and evaluation. (Steinaker & Bell, 1979).
Dissemination (D)	Plans, implements and evaluates elements of care for a group of service users under minimal supervision, in accordance with the competent Practitioner role. Advises others, shows ability to teach junior colleagues identifies personal team working and leadership style and shows ability to supervise the routine work of junior staff. Critical analysis, evaluation and decision-making skills demonstrated. (Steinaker & Bell, 1979).

Steinaker and Bell's Experiential Taxonomy (1979)

Demonstrates knowledge regarding				
Performance Criteria	**Assessment Method (Questioning/ Observation)**	**Level achieved**	**Date**	**Assessor/ self-assessed**
Name 4 signs or symptoms of hypoglycaemia				
List possible causes of hypoglycaemia				
State the correct treatment for managing mild and severe hypoglycaemia				
State the duration of time to wait before rechecking blood glucose levels				

Describe how to verify the patients hypoglycaemia has resolved				
Describe the course of action to take if the patient remains hypoglycaemic				
Once hypoglycaemia is resolved describe the correct action to prevent re-occurrence				
Describe how to summon assistance from a competent person where the individual is not responding to treatment and requires further help				
Describe your actions until a competent person arrives				
Describe what information to provide to the competent person				
Describe your actions if the patient loses consciousness				
Describe the record keeping requirements required by the organisation				
Describe your actions if the patient reports their symptoms/hypoglycaemia episodes are occurring regularly				

Demonstrates practical skills				
Performance Criteria	**Assessment Method (Questioning/ Observation)**	**Level achieved**	**Date**	**Assessor/ self-assessed**
Correctly identify quick acting carbohydrate				

Correctly select / measure appropriate amount of quick acting carbohydrate to administer				
Correctly manoeuvre a model into the recovery position				

Name: _____ **Signature:** _____ **Status:** _____
Date: _____

I confirm that I have assessed the above named individual and can verify that he/she demonstrates competency in the management of hypoglycaemia.

Assessor: _____ **Signature:** _____ **Status:** _____
Date: _____

Review Dates:	**Competent Yes/No**	**Registered Nurse signature**	**Verifier signature**	**Comments**

References:

Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 (Part 3)

Care Quality Commission (Registration) Regulations 2009 (Part 4)