

**Interim best practice
guidelines for training
professional carers in the
administration of buccal
(oromucosal) midazolam for
the treatment of prolonged
and/or clusters of epileptic
seizures in the community**





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This document is the second edition of the best practice guidelines for training professional carers in the administration of buccal (oromucosal) midazolam for the treatment of prolonged and/or clusters of epileptic seizures in the community.

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This document is compliant with:

Nursing and Midwifery Council (NMC) code of conduct.

<https://www.nmc.org.uk/code>

Epilepsies in children, young people and adults, Clinical guideline [NG217] (2022) National Institute for Clinical Excellence (NICE) <https://www.nice.org.uk/guidance/ng21>

Foreword

Convulsive status epilepticus is a medical emergency requiring admission to hospital and has a mortality rate of up to 20 per cent. An important component of its prevention is the pre-hospital community management. Effective management of seizures in the community in people at high risk of status epilepticus could significantly reduce mortality, morbidity and emergency health care utilisation. Delivery of this is hinged on families and professional non-clinical carers. This requires them to be trained in administration of emergency medication to terminate seizures, principally buccal midazolam. Midazolam is a scheduled drug, currently unlicensed for use in adults, even though it is recognised as the most effective drug to prevent status epilepticus emergence in community. Given its position there is an ever-present risk of it being inadvertently misused and causing harm to the person with epilepsy. Thus, effective, and bespoke training on epilepsy, and midazolam administration, is needed for those likely to use it.

ESNA (Epilepsy Nurses Association) is an UK based professional organisation formed by nurse specialists and clinical colleagues. Their role is to support nurses working with people with epilepsy to deliver best practice. ESNA has been working with the International League Against Epilepsy (ILAE) British Chapter and the Royal College of Psychiatrists Faculty for intellectual disabilities (RC Psych) to further best practice in this complex area. The launch of the version 1 guidance of the best practice for emergency midazolam use in people with epilepsy addressed a major gap in evidence-based epilepsy service delivery. The current document updates those guidelines to provide up to date best practice to keep people with epilepsy safer.

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Overview

These guidelines are designed to ensure that professional care workers receive a consistent standard of training for the safe administration of buccal midazolam to people with epilepsy in the community. It outlines trainer competencies, course content, assessment to deliver best practice and reduce seizure and associated risks to people with epilepsy.

The guidelines outline the core essentials of any epilepsy awareness and/or buccal midazolam training course. While it is the responsibility of each individual trainer to design and deliver their training dependent on their individual training style the guidance provides trainers the competencies required to deliver the training and the essential components of the training. It also provides benchmarking guidance for care providers and commissioners of services prior to commissioning a training provider.

Nasal administration of midazolam and the administration of rectal diazepam or paraldehyde is beyond the remit of this guidance and will be subject to local protocols and training packages.

Who is it for?

These guidelines are primarily aimed for all stakeholders working with people with epilepsy in the UK. These include:

- Health care professionals developing and delivering buccal midazolam training courses.
- Professional care workers, supporting people with epilepsy in the community.
- Health care professionals developing and delivering “Train the Trainer” courses.
- Commissioners, service providers, voluntary organisations and the Care Quality Commission in England and similar organisations in Wales, Scotland and Northern Ireland.
- People with Epilepsy, Family and Carers.

Background

The International League against epilepsy (ILAE) definition of status epilepticus (SE) is all seizures lasting longer than 5 minutes (Trinka et al 2015). A generalised convulsive SE is classified as Convulsive Status (CS) and is a recognised medical emergency (NICE 2022).

It is recommended that people with epilepsy who have CS or serial convulsions have an emergency care plan that informs and directs professional carers, family and friends in the treatment of this condition (NICE 2022).

NICE clinical guideline 217 (NICE 2022) recommends buccal midazolam (first line) or rectal diazepam for use in the community for children, young people and adults, who have had a previous episode of prolonged or serial CS. It is recommended that in these situations, professional carers, family and friends receive appropriate training in the safe administration of buccal midazolam.

Midazolam belongs to a group of medicines known as benzodiazepines. It is a licensed product in the UK for use in emergency seizure management for children aged between three months and 18 years old. However, in spite of its wide usage in adults it remains an unlicensed product in over 18-year-olds for emergency seizure management.

Studies comparing the effectiveness of midazolam concluded that buccal midazolam is safe and effective in treating prolonged or serial CS (Lahat et al 2000). There is evidence that midazolam given buccally is at least as effective as diazepam administered rectally. Midazolam has a longer duration of action than diazepam, despite the half-life being shorter (McMullan et al 2010). Administration via the mouth is more socially acceptable and convenient for prolonged seizures that occur outside hospital (Scott et al 1999).

The importance of training is recognised in a number of review papers (Shankar et al 2017, Salas et al 2012), but none give any indication of core essentials or core competencies. It is recognised that the initial guidance published by the now disbanded Joint Epilepsy Council, were not robust enough to ensure safe practice or care (Shankar et al 2015). Till date, neither NICE nor SIGN provide specific guidance on essential components of epilepsy training particularly when rescue medication such as midazolam is prescribed. The first such attempt was the 2019 ESNA guidelines.

The ESNA guidelines – terms of reference, focus and guiding principles.

The first ESNA good practice guideline in 2019 addressed a major gap in care. These guidelines are a revision of the 2019 version to outline the up to date best practice in rescue medication training.

This revised guidance has been developed by a steering committee composed of , senior ESNA members with experience in rescue medication training using a modified Delphi methodology

The committee reviewed and identified special groups, such as children and people with intellectual disabilities and concluded that there is no significant difference in training needs for these groups, over and above the core essentials outlined.

The committee agreed that training provided on an ad hoc or bespoke basis will also need to have the core essentials.

Standards for commissioning or delivering buccal midazolam training.

Training should adhere to the Guidance set out in this documents. Any deviation needs to demonstrate clear lines of accountability to the commissioner of the training . Responsibility for ensuring that training is delivered in line with these guidelines, lies with care providers requesting the training, and ultimately commissioners of services for people with epilepsy.

The training standards outlined below are the result of reviews of the previous Joint Epilepsy Council (JEC) guidelines, the first edition of these guidelines (2019), discussions with focus groups of Epilepsy Specialist Nurses, training providers and feedback from users who have undertaken training.

Trainer competencies:

Group 1

Those who educate people with epilepsy and their carers about epilepsy and safe administration of buccal midazolam for example: within a clinic, ward, or home visit setting:

- Must have a nursing or medical qualification and a minimum of one years' experience working with people with epilepsy, for example, within a specialist clinical multi-disciplinary team working and formulating the administration of buccal midazolam individual care plans.
- Have endorsement of their competencies by their clinical manager (ESNA 2022b).
- Have evidence of ongoing Continuous Practice Development (CPD) within epilepsy care.
- Have personal liability insurance in place, or ensure if working via an NHS organisation, third sector provider or other organisation there is indemnity insurance as part of the organisational cover.

Group 2

Those who teach caregivers epilepsy awareness and the safe administration of buccal midazolam outside of a clinic, ward, or home visit setting: for example, teaching at external organisations such as to care home staff, day services, social care organisations:

- Must have a nursing or medical qualification and a minimum of three years' experience working directly with people with epilepsy; for example, within a multi-disciplinary team, working and formulating the administration of buccal midazolam protocols/care plans.
- Have a minimum of one year's experience in delivering training/facilitating courses and can provide evidence of a relevant teaching and assessment qualification and/or endorsement of their competence by their clinical manager or epilepsy specialist peer.
- Have evidence of ongoing Continuous Practice Development (CPD) within Epilepsy care.
- Have vicarious liability insurance in place or ensure if working via an NHS organisation, third sector provider or other organisation there is indemnity insurance as part of the organisation cover.

Group 3

Those who provide epilepsy and buccal midazolam training as a "Train the Trainer" (TTT):

- Must have a nursing or medical qualification and a minimum of five years' experience managing epilepsy care.
- Must be able to demonstrate that they have worked within a Multidisciplinary team within epilepsy care and have recent experience in developing buccal midazolam protocols/risk assessments/care plans.
- Have a minimum of two years' experience in delivering training/facilitation courses in epilepsy, (see group 2)
- Have a legal and accountable framework in place to ensure their candidates have the knowledge and skills and regularly offer support and updates.
- Have vicarious liability insurance in place or ensure if working via an NHS organisation, third sector provider or other organisation there is indemnity insurance as part of the organisation cover.
- See ESNA Train The Trainer (TTT) development guidance (appendix 1)

Group 4

Paid health care or support workers who have completed an appropriate TTT course – Epilepsy and the safe administration of buccal midazolam and who then intend to teach other caregivers within their organisation only:

- Must have a minimum of five years direct epilepsy care experience.
- Have a minimum of one year's experience in delivering training/facilitation courses and can provide evidence of a relevant teaching and assessment qualification and endorsement of their clinical training skills by their registered manager.
- Can provide evidence of Continuous Practice Development (CPD) and that their knowledge and experience of epilepsy is kept up to date and evidenced.
- Must have vicarious liability and indemnity insurance in place.
- Must limit their teaching to within their own organisation or service.
- See ESNA TTT best practice guidance.
- We would not recommend that paid carers who completed a TTT course, deliver training outside their own care organisation.

*Indemnity insurance is a contractual agreement in which one party guarantees compensation for actual or potential losses or damages sustained by another party.

Delivery of Training Course:

Buccal midazolam training has traditionally been modelled on life support training i.e. a face to face delivery. However, other methods of delivery have and continue to be used, such as on-line training courses. There remains a debate about the effectiveness of other training methods and people with epilepsy safety. During the pandemic, alternative ways of delivering training were considered by those delivering face to face training. These alternative delivery methods, such as on-line non-face to face and online virtual face to face training were also inquired to by the committee.

Based on the results of the Delphi process, the ESNA committee agreed to incorporate the option of virtual face to face training in exceptional circumstances, but to exclude the option of online non-face to face courses, for the safe administration of Buccal Midazolam, in the current guidance. This will be kept under review and may change in the future based on emerging evidence.

Core components of epilepsy awareness and buccal midazolam training course

It is recommended that the initial training should be a minimum of six (6) hours face to face training, unless bespoke to patient/person.

Course content	Essential components
What is epilepsy	✓
What causes epilepsy	✓
How do we make a diagnosis including differential diagnosis	✓
Recognising and describing seizures	✓
Triggers for seizures	✓
Treatment options	✓
First aid management of seizures / calling 999	✓
Status epilepticus	✓
Buccal Midazolam including demonstration.	✓
Care planning and recording mechanisms	✓
Risk assessment and safety	✓
SUDEP	✓
Interactive case discussions	✓
Sources of support and information	✓

Administration of buccal midazolam – all these components are essential

- What is midazolam, including different preparations/concentrations
- Indications for the use of midazolam and the importance as a rescue medication for people with epilepsy.
- Appropriate doses when given via the buccal route
- Benefits of using buccal midazolam
- Recognise signs of respiratory depression
- Possible difficulties in administration (e.g. excessive salivation, etc)
- Potential side effects and adverse effects.
- Actions if buccal midazolam is ineffective
- Identifying and using individual's buccal midazolam care plan
- Storage and safe disposal
- Duty of care/responsibility and accountability
- Practical demonstration face to face (best practice).
- When to seek medical help
- Interactive case discussions relevant to training/trainers and carers experience.

Interim guidelines

The consensus from the Delphi process is that face to face training is the optimal mode of delivery for epilepsy awareness and midazolam administration training. However, it is acknowledged that there can be limitations/barriers to this option. Therefore, a hybrid course of both face to face and live virtual training may be acceptable in some limited cases.

- Complete initial face-to-face or recognised quality assured e-learning module training.
- Undertake a refresher every two years as a maximum requirement.
- Upon completion it is highly recommended that the carer's line managers use the Care Competency Checklist (ESNA 2022b). This can form part of appraisals, debriefing after use of midazolam or when difficult clinical situations occur. This is in addition to ensuring competency of staff for inspection and quality assurance.

Refresher course

The refresher courses should cover all the essential components of both the awareness and buccal midazolam training outlined above. This should also include all relevant updates in epilepsy. This should be a minimum of 3 hours face to face and every 2 years.

Assessment of learning

There are recognised difficulties associated with the assessment of knowledge and skills of participants undertaking the training of buccal midazolam. Ongoing assessment using questioning or written assessments during training is essential to ensure safety and carers' understanding.

The idea of an on-line test to help standardisation of the training being delivered was introduced in 2017 and promoted in the 2019 guidance as best practice. This would check knowledge and understanding of carers following training (Tittensor 2021). In a sample of 278 carers who had undertaken the on-line test, 95% passed, with 100% positive feedback. This online test was endorsed by ESNA ([virtual-college.co.uk/courses/health and safety/buccal midazolam/training courses](http://virtual-college.co.uk/courses/health%20and%20safety/buccal%20midazolam/training%20courses)) following completion of buccal midazolam training. However, uptake for the test has been poor, and the test has therefore been discontinued pending further review. It was agreed by the committee that in future assessment of course participants should now be undertaken by the training individual or organisation.

ESNA has developed a Carers Competency Checklist (ESNA 2022b) for employers/care providers, to review or be part of the appraisal system, to ensure ongoing level of skill and understanding of safe administration of emergency medication (Carer-Compency-Document-1.pdf (esna-online.org)).

Responsibilities

- Professional carers with the responsibility to administer buccal midazolam should receive a minimum of two-yearly training updates for epilepsy awareness and administration of buccal midazolam.
- Patients, families and carers of people with epilepsy should always be involved in the development of their buccal midazolam care plan.
- Training should be sourced from trainers who fulfil all aspects of the training standards previously mentioned.

Plans for review.

These guidelines will be reviewed by ESNA every three years, as part of ongoing best practice for the safe management and delivery of emergency medications with-in the community.

Conclusion

This is a revised and edited document expanding on the 2019 guidelines. It provides improved best practice guidance that should form the core of any epilepsy training course including TTT. It provides standards to ensure the safe administration of buccal midazolam in the community. It provides guidance for commissioners to ensure the best possible standard of epilepsy and midazolam rescue medication training.

Sources of Further Information

David Lewis Centre

Mill Lane
Warford
Alderley Edge
Cheshire SK9 7UD
Helpline: 01565 640000
Website: www.davidlewis.org.uk

Epilepsy Action

New Anstey House
Gate Way Drive
Yeadon
Leeds LS19 7XY
Helpline: 0808 800 5050
Website: www.epilepsyaction.org.uk
Email: epilepsy@epilepsyaction.org.uk

Epilepsy Nurses Association (ESNA)

Website: www.esna-online.org.uk
Email: esnaepilepsynursesassociation@outlook.com

Epilepsy Society

Chesham Lane
Chalfont St Peter SL9 0RJ
Helpline: 01494 601400
Website: www.epilepsysociety.org.uk
Email: fromthehelpline@epilepsysociety.org.uk

Epilepsy Scotland

48 Govan Road
Glasgow G51 1JL
Helpline: 0808 800 2200
Website: www.epilepsyscotland.org.uk
Email: enquiries@epilepsyscotland.org.uk
Enquires: 0141 427 4911

Great Ormond Street Hospital for Children NHS Foundation Trust

Great Ormond Street
London WC1N 3JH
Tel: 020 7405 9200
Website: <http://www.gosh.nhs.uk>

International League Against Epilepsy (ILAE)

ILAE British Chapter
PO Box 70977
London SE25 9EA
Website: <http://ilaebritish.org.uk>
Email: members@ilaebritish.org.uk

Young Epilepsy

St Piers Lane
Lingfield
Surrey RH7 6PW
Helpline: 01342 831342
Website: <https://www.youngpilepsy.org.uk>
Email: info@youngpilepsy.org.uk

Quarriers

The William Quarrier Scottish Epilepsy Centre
20 St Kenneth Drive
Glasgow G51 4QD
Tel: 0141 445 7750
Website: www.scottishepilepsycentre.org.uk

SUDEP Action

12A Mill Street
Wantage OX12 9AQ
Phone: 01235 772850
Email: info@sudep.org
Website: www.sudep.org

Neuraxpharma

Summary of Product Characteristics – Buccolam. <https://www.neuraxpharm.com/uk/portfolio/buccolam>

Veriton Pharma Limited (2018).

Summary of Product Characteristics – Epistatus. <https://www.veritonpharma.com/products/licensed-products/epistatus/>

References

Best practice guidelines for training professional carers in the administration of Buccal (Oromucosal) Midazolam for the treatment of prolonged and/or clusters of epileptic seizures in the community (2019) Epilepsy Specialist Nurses Association (ESNA)

Competency checklist for the administration of buccal (oromucosal) midazolam. Epilepsy Nurses Organisation (ESNA) (2022b). Carer-Competency-Document-1.pdf (www.esna-online.org)

Epilepsies in children, young people and adults, Clinical guideline [NG217] (2022) National Institute for Clinical Excellence (NICE), Accessed [18.11.2022] <https://www.nice.org.uk/guidance/ng217>

ILAE Task Force on Classification of Status Epilepticus. *Epilepsia*, 56: pp 1515-1523. <https://doi.org/10.1111/epi.13121>

Lahat. E, Goldman. M. Barr, J. Bistrizter, T. Berkovitch, M. (2000) *Comparison of intranasal midazolam with intravenous diazepam for treating febrile seizures in children: prospective randomised study.* *BMJ*, 321, pp 83-6.

McMullan. J, Sasson. C, Pancioli. A, Silbergleit. R, (2010) *Midazolam versus diazepam for the treatment of status epilepticus in children and young adults: a meta-analysis.* *Academic Emergency Medicine*, 17 (6) pp 575-82.

National Institute for Health and Care Excellence (NICE) (2022). *Nice Guideline NG 217: epilepsies in children, young people and adults.* Overview | Epilepsies in children, young people and adults | Guidance | NICE

Nursing and Midwifery Council (2015) *Professional standards of practice and behaviour for nurses, midwives and nursing associates,* Accessed [18.11.2022] <https://www.nmc.org.uk/standards/code/>

Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2012). *The Science of Training and Development in Organizations: What Matters in Practice.* *Psychological Science in the Public Interest*, 13(2), 74–101. <https://doi.org/10.1177/1529100612436661>

Scott. R.C, Besag. F.M, Neville. B.G, (1999) *Buccal midazolam and rectal diazepam for treatment of prolonged seizures in childhood and adolescence: a randomised trial.* *The Lancet*, 353 (9153) pp 623-6.

Scottish Intercollegiate Guidelines Network (SIGN) (2015) (Revised 2018). *Diagnosis and management of epilepsy in adults.* Clinical Guideline 143. Accessed [09/02/2022] <http://www.sign.ac.uk/pdf/SIGN143.pdf>

Shankar R, Jory C, McLean B, Tittensor P, Walker M, (2017) *Epilepsy awareness and emergency rescue training: Ignorance is bliss!* Epilepsy Behav. 2017 May;70(Pt A): pp 212-216. doi: 10.1016/j.yebeh.2017.03.010. Epub 2017 Apr 20. PMID: 28437749.

Shankar R, Jory C, Ashton J, McLean B, Walker M, (2015) *Epilepsy emergency rescue training*. BMJ Qual Improv Rep. 2015 Jun 12;4(1):u208167.w3566. doi: 10.1136/bmj.quality.u208167.w3566. PMID: 26734339; PMCID: PMC4645852.

Skills for Care, Care Certificate Accessed online [18.11.2022] <https://www.skillsforcare.org.uk/Developing-your-workforce/Care-Certificate/Care-Certificate.aspx>

The Adult/Paediatric and Adult LD Epilepsy Specialist Nurse Competency Framework. Epilepsy Nurses Association (ESNA) (2022a ESNA. www.esna-online.org

Tittensor P, Tittensor.S, Chisang.E, Bagary.M, Jory.C, Shankar.R (2021) *UK framework for basic epilepsy training and oromucosal midazolam administration*, Epilepsy Behav. 2021 Sep;122:108180. doi: 10.1016/j.yebeh.2021.108180. Epub 2021 Jul 9. PMID: 3425283

Trinka, E., Cock, H., Hesdorffer, D., Rossetti, A.O., Scheffer, I.E., Shinnar, S., Shorvon, S. and Lowenstein, D.H. (2015), *A definition and classification of status epilepticus – Report of the*

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www.scottishepilepsycentre.org.uk

Guardian Angels

www.guardianangelstraining.co.uk

Appendix 1: Guidance for a “Train the Trainer” course in epilepsy and the safe admission of buccal midazolam

What is a “Train the Trainer” (TTT) programme?

A TTT programme is a framework for teaching potential trainers. The programme will enable trainees to go on to teach others within their organisation about a specific subject or skill.

Why develop a TTT course in epilepsy care and buccal midazolam administration?

1. Buccal midazolam is a first line emergency treatment for emergency seizure management (Controlled Drug schedule 3) (Ref Nice/Sign). It is often prescribed for people with epilepsy who experience prolonged convulsive seizures or repeated/serial seizures/status epilepticus.
2. A schedule 3 drug is a controlled drug which must be prescribed by a clinician who is ultimate responsibility for patient safety. They must therefore be confident that the drug will be administered safely. The only way to achieve this is to ensure that carers have received training that meets ESNA best practice guidelines.
3. There are many training providers who offer epilepsy and buccal midazolam education in the UK, but quality is difficult to determine as there is a lack of standardisation or audit.
4. There are too few qualified epilepsy care educators (as per ESNA guidelines) in the UK. This leaves a short fall of caregivers in need of the training.
5. For the provision of a structured and quality controlled TTT course that would enable care providers to deliver training that meets ESNA best practice guidelines to their own staff.

Advantages of an epilepsy and buccal midazolam standardised TTT course

1. Training providers will be fully aware of best practice requirements and the standards that they need to meet.
2. Care providers will be assured that training delivered to their staff will meet minimum standards in line with best practice within a structured learning framework as recommended by ESNA;
3. Carers should be confident that the training they have received is up to date and quality assured.
4. Prescribing clinicians will be assured that medication will be administered by carers that have received training that meets ESNA best practice guidelines.

Disadvantages of the TTT programme

1. There is a significant investment cost to the care organisation. The average outlay is around £1,000 per person to attend or up to £5,000 for an in-house group, plus expenses/loss of work time for each trainee. However, this can in some cases be offset against the cost the providing external epilepsy and emergency medication training to all carers within the organisation.
2. It is the view of the reviewers that those trainees/caregivers, who ONLY receive in-house training, may lose important networking opportunities. It was felt that accessing the wider community in training courses/trainers and professionals can enhance knowledge and learning and add a different perspective to care. However, this is not substantiated with proven research and therefore it is recognised that there may also be advantages to in-house training that the reviewers have not considered, recognised or evaluated.
3. It is not clearly understood whether in-house training increases or decreases the use or need for emergency services due to the lack of confidence or clarity of the training. However, the authors recognise the need and opportunity to further evaluate evidence in this area and thereby enhance future guidelines.

ESNA TTT Guidance	Recommended	Considered
Course facilitators	Two facilitators: <ol style="list-style-type: none"> 1. One qualified subject expert such as a nurse or doctor experienced and currently working within epilepsy care field 2. One person who has experience and qualifications in teaching such as a tutor, teacher, or practice development nurse/person 	If resources allow – extra subject experts to enhance overall learning about the topic.
Course facilitators key requirements	<ul style="list-style-type: none"> • Subject expert must have a nursing or medical qualification and a minimum of five years' experience (full or part time) managing epilepsy care. • Must be able to demonstrate that they have worked within a multidisciplinary team within epilepsy care and have recent experience in developing buccal midazolam protocols/risk assessments/care plans. • Have a minimum of two years' experience in delivering training/facilitation courses in epilepsy and a passion for learning and teaching in epilepsy care and the safe administration of Buccal midazolam • Have vicarious liability insurance in place or ensure if they are working via an NHS organisation, third sector provider or other organisation that there is indemnity insurance as part of their organisation cover. • Good sense of humour. • The Training expert must have an accredited train the trainer qualification • Experience facilitating adult education courses for two years. 	Pharmacists, paramedics, doctors- if they fulfil ESNA trainer competencies criteria. (ref to ESNA doc)
Course venue	Spacious ventilated room to comfortably accommodate up to 14 people, with access to extra space to prep/work/assessment. Access to refreshments and public services, with parking, bus and/or rail links.	
Group	Group – max 12 people, open group or in-house, onsite group.	

Course delivery	Face to face, two days minimum . With self-directed learning (preparation and portfolio)	Face to face is first recommendation, however if there are unavoidable restrictions or circumstances then a blended Face to face and Virtual could be considered. Consider extending course time to two and half or three days if further knowledge or practice is required. Do not rush this training.
Trainees	<ul style="list-style-type: none"> • Must have a minimum of five years direct epilepsy care experience. • Have a minimum of one year's experience in delivering training/facilitation and can provide evidence of a relevant teaching and assessment qualification and endorsement of their training skills by their registered manager. • Can provide evidence of Continuous Practice Development (CPD) and that their knowledge and experience of epilepsy is kept up to date and evidenced. • A desire and willingness for learning and teaching epilepsy care and safe administration of Buccal midazolam. • Pre-assessment to ascertain their level of knowledge about Epilepsy. • Must have vicarious liability and indemnity insurance in place from their employer. • Must limit their teaching to within their own employment/ organisation. 	
Course content	<p>Logical flow to the training: to include:</p> <ul style="list-style-type: none"> • Up to date Epilepsy care and management information that is included in the ESNA best practice guidelines. • How to manage a group of people and understanding different learning and teaching styles. • Ways to assess learning. • Practical sessions – presentations to the group. 	

Assessment	<ol style="list-style-type: none"> 1. Pre- assessment of epilepsy knowledge using a written test. This must be approved prior to attending TTT course. 2. Frequent recapping of sessions throughout the TTT course, to question and reinforce learning and best practice. 3. Observation of presentation styles and content. 4. Completion of a course portfolio, and final examination, prior to receiving certification. 5. Two yearly refresher updates to ensure trainees are still working and demonstrating best practice as per ESNA guidelines withing their own organisation. 	
Qualification that should be given to trainee	<p>Equivalent to for example Level 4 NVQ, Higher education certificate, BTEC, Diploma.</p> <p>(consider registering your course with the above)</p>	

Appendix 2: Online Monkey Survey on delivery of training

During COVID-19 and lockdown it became apparent that the only way to deliver epilepsy awareness training for the administration Midazolam would be either by virtual face-to-face sessions or by accessing online courses. The ESNA review committee were keen to find out how trainers felt this training had gone. A survey was sent out over a three-week period to all members of ESNA, via the ESNA weekly roundup newsletter.

Results

49 members of ESNA responded. Most trainers had delivered epilepsy awareness training and administration of buccal Midazolam virtually (59%). The course content had been condensed (22%) and the length of training had been reduced (29%) by many of the trainers. Some trainers continued to deliver the same course over the same period to meet the Best Practice Guidelines (18%).

Outcomes

45% of trainers felt participants learning had been compromised by delivering the training remotely and 35% felt participants learning was about the same. Only 2% felt participant learning had improved. 33% felt that the training they had delivered fell short of the ESNA Best Practice Guidelines with 39% finding it difficult to effectively deliver rescue medication training effectively in this way.

Best Practice Guideline Review

In the future, 53% felt that the ESNA Best Practice Guidelines should allow for remote delivery of epilepsy training. 39% felt that remote training should only be delivered remotely in exceptional circumstances.

Online Courses

12% of trainers felt that epilepsy awareness and rescue medication administration training should be delivered as an e-learning course. 63% of trainers felt online courses should be used only to support and complement face to face training.

Conclusion

Without knowledge of the numbers of trainers delivering epilepsy awareness and the administration of midazolam courses It is difficult to know response rates.

Learning outcomes are subjective as trainers use different methods to assess participants knowledge during and after training. Unless all candidates take the same evaluation test it is difficult to compare results.

Based on the results of this survey the ESNA reviewing committee agreed to incorporate the option of virtual face to face training; but, to exclude the option of online courses for the safe administration of midazolam in the current guidance.

Appendix 3: Example of Buccal Midazolam Care Plan

There are also Care Plans/Protocols available from; esna-online.org/national-best-practice-guidelines

Name:	
Date of Birth:	Known Allergies:
Description of seizures which may require buccal midazolam:	
1.	
Usual duration of seizure:	
2.	
Usual duration of seizure:	
3.	
Usual duration of seizure:	
4.	
Other useful information:	
.....	
Midazolam Treatment Plan	
1. When should buccal midazolam be administered? (Note here should include whether it is after a certain length of time or number of seizures)	
2. Initial dosage: How much buccal midazolam is given initially? Prescribing weight (if relevant):	
3. What is the usual reaction(s) to buccal midazolam?	
4. If there are difficulties in the administration of buccal midazolam, e.g. Excessive salivation, what action should be taken?	

<p>5. Can a second dose of buccal midazolam be given? Yes / No This would be in exceptional circumstances following a multi-disciplinary discussion, the outcome of which should be recorded in medical records. It is recommended that an ambulance is called if a second dose is administered.</p>	
<p>6. When should 999 be dialled for emergency help? (Please tick appropriate box)</p> <p><input type="checkbox"/> If the full prescribed dose of midazolam fails to control the seizure after Minutes?</p> <p><input type="checkbox"/> Other (please give details, e.G. If concerned about breathing, serious/head injury, unable to administer midazolam etc)</p>	
<p>7. Precautions – maximum dose of midazolam to be administered in a 24-hour period</p>	
<p>All occasions when buccal midazolam is administered must be recorded.</p> <p>This plan has been agreed by the following:</p>	
<p>Prescriber / epilepsy specialist:</p>	<p>Signature:</p> <p>Date:</p>
<p>Patient / patient's representative (note below):</p>	<p>Signature:</p> <p>Date:</p>
<p>Care plan author:</p>	<p>Signature:</p> <p>Date:</p>

NB Patient's representative e.g. responsible family member or care manager.

Carer Competencies document.

Interim guidelines

For further information on the paediatric ESN competency framework please contact ESNA

(<https://esna-online.org/>)