NEW ZEALAND
Resuscitation Council
WHAKAHAUORA AOTEAROA

NLS Advanced

Welcome to Newborn Life Support Certification

NLS Advanced Course Information

NZ Resuscitation Council Newborn Life Support certification provides a standardised education curriculum for health professionals who may be involved in the resuscitation of a newborn.

The NZ Resuscitation Council NLS curriculum offers three different courses:

NLS Advanced is for the advanced responder who is expected to manage and supervise newborn resuscitation events.

NLS Immediate is for responders who might be expected to manage the early stages of the resuscitation of a newborn.

NLS Skills is for responders who do not require assessment in practical and theoretical skills of NLS resuscitation. It can be used as a skills update of refresher session.

Each is a separate course, and a learner must decide the course in which they wish to enrol. NLS Immediate and NLS Advanced lead to NZ Resuscitation Council Newborn Life Support Certificate. NLS Skills does not provide the learner with NLS certification however instructors issue a Council confirmation of attendance.

Who is the NLS certification for?

NLS certification is open to all practicing health professionals who may be present at the birth of a newborn. Learners may choose between the NLS Immediate or NLS Advanced qualification, depending on their expected role in resuscitation care.

A multi-disciplinary practical approach to healthcare is an underlying philosophy of NZ

Resuscitation Council education programmes. An NLS course fosters respect and teamwork between health professionals through realistic resuscitation scenarios.

Learners on NLS Immediate and NLS Advanced are assessed on practical skills. Additionally, learners who challenge NLS Advanced are assessed on knowledge.

How is NLS Advanced obtained?

Certification requires the learner to demonstrate a given standard of simulated practical skills, facilitated by self-directed learning, face-to-face training, and formal assessment.

Self-directed learning	Three weeks (min.)
Attending face-to-face training	8 hours (approx.)
Assessment	Knowledge and skills

After successful completion of all assessments, learners receive their NLS Advanced certificate and are invited to provide feedback on their experience.

1. Self-directed Learning

A learner contacts an NLS provider to organise their training. Before attending the provider course, there is a minimum period during which the learner is expected to acquire the necessary theory with pre-reading.

NLS Advanced learners are directed to access the NZ Resuscitation Council NLS Guidelines at least three weeks before their provider course. NLS Advanced includes a multi-choice knowledge assessment that uses the content from these guidelines.

2. The NLS Advanced Provider Course

NLS Advanced provider courses are delivered by one or more NLS Advanced instructors who have been certified by the NZ Resuscitation Council. Each course has a Course Director, who is responsible for the delivery of the course.

Face-to-face training focuses on two areas:

1. The practical skills of resuscitation of a newborn

2. Scenarios for the integrated management of resuscitation of a newborn.

The course also provides the learner with ample opportunity for discussion.

The course is designed to enable a mix of health professionals to work in teams, just as they might in real life. Although the final learner mix will be tailored as required, the NZ Resuscitation Council advocates for multi-disciplinary courses wherever feasible.

Flexibility of delivery

NLS Advanced may be completed in one day or spaced out over several days, evenings or even weeks. This flexibility allows the course to be completed in circumstances where learners are unable to attend full-day practical courses and allows course content to be incorporated into broader courses covering additional material.

NLS Advanced provider course content

The provider course is delivered as a series of modules covering the essential practical skills of resuscitation. Five skill modules are based around key management guidelines, while the series of scenarios are focused on the integration of the skills learned during the provider course.

Skill Modules on NLS Advanced

Module one - The Newborn Life Support Algorithm

This skill module provides the learner with an overview of the Newborn Life support algorithm and introduces the skills that are required to manage the newborn requiring resuscitation.

The key teaching points will include:

- the importance of a cognitive aid
- preparation of equipment and set up of the resuscitaire
- preparation of self, establishing team structure and effective communication
- recognising the importance of declaring an emergency early and seeking expert assistance
- receiving the newborn, drying and stimulation and initial assessment of breathing, tone, and heart rate

- optimal position for the head and neck for airway management
- the timing of reassessment to enable clinical decisions and progression through the algorithm
- delivery of initial breaths using a T-piece (NeoPuff™) and use of a bag-mask ventilation device using room air
- the importance of gaining chest rise with manual inflation and
- the indications for starting and stopping chest compressions.

Module two - Airway management

This module provides the learner with the skills necessary to manage the airway of a newborn who is not breathing. It includes the use of additional airway adjuncts including problem solving using a structured CHOPSS approach.

The key teaching points will include:

- review of the assessment of breathing in the newborn
- apply manual manoeuvres, chin lift and jaw thrust to establish an open airway
- positioning of the head in a neutral position
- additional manoeuvres using a CHOPSS mnemonic to establish an open airway
- demonstrate sizing and insertion of an oropharyngeal airway
- demonstrate sizing an appropriate mask and creating a seal over nose and mouth.
- consider troubleshooting strategies such as adjustment of size and seal of the mask
- consider suctioning of the upper airway. When to suction and what types of suction catheter to use.
- correct sizing and insertion of a supraglottic airway (SGA)
- correct sizing and insertion an endotracheal tube (ET) and
- familiarity with capnography in this setting.

All learners will learn all components of the airway management skill station.

Module three - Breathing management

This module provides the learner with the skills necessary to assess breathing and provide ventilations to a newborn who is not breathing.

The key teaching points will include:

- assessment of breathing

- provide ventilations using a bag-mask ventilator
- provide ventilations using a T-piece (NeoPuff™)
- understand the need for, and use of, pulse oximetry
- the indications for and management of oxygen delivery.

Module four - Circulation management

This module provides the learner with the skills necessary to assess circulation and provide chest compressions in a newborn.

The key teaching points will include:

- indications for chest compressions
- the need to move to 100% oxygen when compressions are being performed
- the encircling technique to gain 1/3 of the chest diameter depth and whole thoracic cage squeeze
- compression to ventilation ratio of 3:1 (three compressions to one breath)
- establishing vascular access
- umbilical vein catheter (UVC) insertion
- intraosseous catheter (IO) insertion and
- administration of medications including adrenaline, fluid bolus with saline and blood, and post resuscitation care including glucose and antibiotics.

Module five – Other considerations

This module provides the learner with an overview of other considerations that may arise involving a resuscitation of a newborn.

The key teaching points will include:

- thermoregulation
- presence of meconium
- preterm birth
- unexpected birth
- congenital abnormality and
- delayed cord clamping.

Scenario on NLS Advanced

The series of scenarios for NLS Advanced includes one demonstration scenario and a minimum of five other scenarios from a set.

Demonstration

During this scenario the learners will have modelled for them:

- the establishment of team structure including the role of a team leader
- effective communication
- the application of the sequence of the Newborn Life Support (NLS) algorithm
- early airway management and breathing and
- CPR and manage oxygen delivery.

Baby A – Breech birth requiring resuscitation

During this scenario the learners will demonstrate:

- establishing a team structure including the role of a team leader
- effective communication
- understanding and application of the sequence of the NLS algorithm
- appreciation of the importance of early airway management and breathing and
- identification of the need for CPR and manage oxygen delivery.

Baby B - Birth with meconium-stained liquor

During this scenario the learners will:

- reinforce the sequence of the NLS algorithm
- develop the role of team leader and teamwork behaviours and
- appreciate the central importance of early airway management and breathing even with the presence of meconium

Baby C - Premature birth

During this scenario the learners will:

- continue to reinforce the sequence of the NLS Algorithm
- develop the role of the team leader and teamwork behaviours and
- understand the important differences when managing the resuscitation of a

premature newborn.

Baby D - Birth following premature rupture of membranes

During this scenario the learners will:

- continue to reinforce the sequence of the NLS algorithm
- develop the role of team leader and teamwork behaviours
- appreciate the importance to protect fragile skin and to maintain normothermia and
- appreciate of the need to consider sepsis in post resuscitation care.

Baby E - Maternal antepartum hemorrhage

During this scenario the learners will:

- continue to reinforce the sequence of the NLS algorithm
- develop the role of team leader and teamwork behaviours and
- recognise volume depletion and the indicated therapies.

3. Assessment

To gain NLS certification there is a formal assessment. For NLS Advanced this involves assessment of the skills of resuscitation of a newborn, as well as assessment of theoretical knowledge. Learners must pass all assessments to achieve certification.

Scenarios are not assessed.

Psychomotor Skills Assessment

The skill module assessment is assessed using specific criteria for each expected action. The skill module assessment components are demonstrating the application of the NLS algorithm.

Criteria for a pass

Instructors make every effort to support learning opportunities and, if necessary, provide additional coaching to help learners pass the skills assessment. All assessment criteria are graded between 1 (low) and 5 (high).

The requirements are as follows:

1. To obtain certification, a learner must pass all assessments within six weeks of the face-to-face training.
2. To pass an assessment, a learner must get a grade of at least 3.
3. No more than three attempts at a skills assessment can be made in one day.
4. If the learner does not pass an assessment after three attempts, they may re-attempt after 48 hours.
5. If the learner does not pass all assessments within six weeks of the face-to-face training, the learner would need to repeat the course.
6. Certification is dated the same as that of the learner's face-to-face training, regardless of the date they pass all assessments.

Knowledge assessment

NLS Advanced includes an assessment of theoretical knowledge of resuscitation comprising multi-choice questions. Questions are intended to demonstrate whether the learner has worked carefully through the reference material.

Compassionate consideration

Compassionate consideration may be granted where circumstances prevent the learner from re-sitting within the required time frame (for example in the case of illness). The procedure for compassionate consideration is that the learner submits a written request explaining the circumstances to their Course Director. This should be supported by a written statement from the Course Director and forwarded to the NZ Resuscitation Council. The NZ Resuscitation Council will respond within five working days.

Certification and post-course processes

Certification period

NLS certificates are conferred by the NZ Resuscitation Council and are valid for one year from the time of successful completion of the assessment. For their own purposes, employing organisations and accreditation bodies may recognise the certification for longer. Due to fall-off in skill retention, the NZ Resuscitation Council would not support any recognition period longer than three years.

Clinical implications of certification

NLS certification indicates successful completion of the assessment for a particular course prescription. Because of the limitations of such courses to clearly indicate clinical competence, the NZ Resuscitation Council makes the following statements in relation to its certification:

1. Successful completion of NLS certification does not qualify the learner to perform, or indicate that the learner is competent to perform, the skills of resuscitation in the clinical setting. The application of certification to indicate clinical competence must be decided solely by the clinical institution within which the learner practices.
2. The material taught as part of the NLS program may not correspond exactly to that which the learner is permitted to practice in their own clinical institution. The final clinical application of these skills is solely at the discretion of the clinical institution concerned.

Recognition of prior learning

Learners seeking NLS certification should have the prior skills and theoretical knowledge necessary to complete the course. Because the NZ Resuscitation Council considers that all learners should complete the entire course for their skill level, there is no specific recognition of prior learning for NLS courses.

Certification and cross-crediting

NLS Advanced learners shall receive a certificate dated from the date of their face-to-face training.

No other courses are currently recognised for cross-crediting purposes.

Quality assurance

Quality is of paramount importance to the NZ Resuscitation Council. For this reason, a key feature of the NLS course is a prescriptive method of delivery, content and assessment.

As part of the quality assurance requirements of the NZ Resuscitation Council, learners are invited to complete an evaluation for the course attended. This feedback allows the NZ Resuscitation Council to identify course difficulties, give feedback to instructors, and consider modifications to the course and administrative processes.