NEW ZEALAND
Resuscitation Council
WHAKAHAUORA AOTEAROA

Resuscitation and Emergency Care: A Teaching Guide

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Introduction

The purpose of resuscitation training is to improve performance at cardiopulmonary resuscitation (CPR) – a skill which is potentially life-saving.

It is important that Resuscitation knowledge and skills are regularly reviewed and practiced because :

- life-threatening events can be extremely stressful, even for health professionals who may lack **confidence**
- lay persons and clinical staff working in non-acute areas have little or no **exposure** to cardiopulmonary arrest
- clinical staff in acute areas can frequently rotate through roles, so membership of the resuscitation team can be **inconsistent**
- the skills and coordination required for successful resuscitation **decay** rapidly unless practised.

Resuscitation Training can improve confidence and exposure, create consistency, and reduce skill decay**.** Training involves teaching a particular skill through regular practice and instruction. Effective training requires good educators.

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Chapter 1 - Teaching and Learning

Teaching may be defined as *a planned learning experience which results in a relatively permanent change in behaviour.*

Learning is *the relatively permanent change in behaviour that results from a planned experience.*

Teaching needs to be:

- planned and **prepared**
- a positive learning experience
- motivating to change or improve behaviour or performance.

Preparation for the Course

- All of the **information** about the course must be provided in advance. For the learner's expectations to be met and have a positive experience, the learner needs to understand the course content and have time to prepare.
- **The teaching venue** must be prepared and conducive with learning.
- There must be adequate instructors for the number of learners. As the number of learners per instructor increases, the ability of the instructor to observe learner performance and give formative feedback decreases. **The course curriculum needs to provide guidance on instructor learner ratios.**

Instructors need to know the course content. Reviewing subject material will add to the instructor's confidence. Acknowledging their own limitations can enable instructors to direct learners to appropriate knowledge resources.

The Learning Experience

It is essential that learners on a course are equipped with and motivated to use potentially life saving skills. The skills need to be practised regularly if they are to retained. To encourage use of these skills and ensure refresher training, a *positive learning experience* must be created. For this:

- **encouragement** is essential
- instructors must be **supportive** of learners at all times
- instructors should encourage **mutual support** within the group for activities involving a

team function
- competitiveness should be discouraged, especially in multidisciplinary groups which may result in intimidation of newcomers to resuscitation.

The idea of being "keen enough to learn" is very important. For most courses, attendance is voluntary. Most participants are **adult learners**.

Adults learn best when:

- they are personally **motivated** and not under stress
- the subject is within their **ability** to learn
- the learning experience is **relevant** and meaningful
- there is active **involvement**
- there has been previous **experience** or exposure to the subject
- they are allowed to **reflect** on the teaching
- clear learning **goals** have been set
- they get regular **positive feedback**.

A positive learning experience does not involve the terms poor, bad, incorrect, but helps learners to see areas for improvement.

The learner needs to:

- gain **knowledge** so that they can apply it
- master **skills** so that they can use them confidently.

Learning and Motivation

The intention of the course is to *improve* the ways that people manage and perform cardiopulmonary resuscitation (CPR). The learning in this context *is a change in behaviour.*

Knowledge alone does not bring about changes in performance. Learners must have read and understood any written material before attending the course to obtain full benefit from the practical modules and discussions that are to take place.

An ideal learning experience will:

- provide preparation material
- engage the learner's enthusiasm
- avoid excessive jargon and arrogance by the instructor
- be clearly related to the practice that the learner needs to apply

- involve all of the learners
- relate to both the learner's experience and the instructor's experience.
- require learners to ask and answer questions; this is a prerequisite for discussions
- identify the expectations for each session
- provide regular approval of answers and helpful responses – positive feedback.

Learning can be considered in four categories:

- theoretical knowledge
- practical skills
- attitude to the subject – a positive approach
- team work including team structure and effective communication.

Motivation to learn has two types:

- personal enthusiasm (intrinsic) is the key to a continued desire to learn, develop and maintain skills and;
- motivation to succeed in assessments (extrinsic pressure). This can be a temporary driver but it may hinder learning if the learner is anxious and it will not be sustained long-term.

Chapter 2 - Methods of Teaching Resuscitation

Resuscitation courses normally use a number of teaching approaches. These include:

- a **manual or knowledge set** to be read in advance of the course to improve knowledge and understanding
- **practical skills modules** to practice and gain psychomotor skills
- formal and informal **discussions**, to allow learners to reflect and apply their learning
- **scenarios** to provide opportunities to learn from integrating all aspects of the subject
- **assessment** to reward the learner for mastering important aspects, to provide an opportunity to improve confidence, and to allow the learner to identify areas needing further attention.

The variety and **linkages** between these different approaches are important. In this way, information in the knowledge material can be linked to questions that may arise, for example, during a practical module or a scenario. Retention of knowledge and psychomotor skills improve as a result.

The Structure of a Training Session

Irrespective of whether the training session is a practical module, a scenario, a lecture, or an organised discussion, the planned learning experience has three key elements:

- preparation
- running the session
- closing the session.

Preparation

There are two parts to preparation: the **environment** and the **objectives**.

Environment

Familiarity with the room and facilities is important. The learning environment needs:

- adequate **space** for the learners to participate fully and see what is being taught
- sufficient **light** without glare
- to be absent of intrusive **noise**
- a comfortable temperature, not too **hot or cold**

- mobile phones, pagers and other distractions turned off.

The Layout

The way that the room and seating is laid out is important. **Plan and organise** the layout to suit whether learners are expected to listen, to contribute, or to be the main participants. Roles can be clarified by statements, or in some instances by arranging chairs.

Objectives

Learners will expect to know:

- what they are going to learn
- how this session fits into the rest of the course
- what role they are expected to play in this session.

A clear identification of the **purpose** of each learning session is essential. The learners need to be given the **goal or objectives**.

The learner needs help to relate their experience and establish how the session **links** with other parts of the course; for example will the learner be assessed later on this aspect?

Knowledge of these links indicates that the instructor is aware of the design and development of the course which will help generate confidence on the part of the learner.

Running the Session

This is the core of the teaching session which requires interaction between the learners and the instructor. The extremes are total instructor-talk (i.e. a lecture) and total learner-talk (as seen in a group of learners). Resuscitation training needs to be **interactive** and aim for a point somewhere between these extremes.

- if the learner group is knowledgeable and receptive, the instructor will not need to talk very much and the session should become interactive.
- if the learner group is unprepared and anticipates a passive role, the instructor will need to talk more and a lecture might result. *Preparation for the course therefore plays an important part in achieving interactive teaching*.

Concentration span is limited for all learners. Adults usually have a high level of concentration for about 10-15 minutes. Most sessions are longer than this and for these, the teaching needs to be broken into sections, either by a **change in activity**, by **summarising**,

or by **raising questions**. Each section can then have its own:

- introduction
- content
- summary

but there must be continuity between the sections.

The size of the group will affect what sort of questions are used. With a small group it is easy to ensure that all are involved. For large groups, the voice will need to be projected and gestures exaggerated.

Closing the Session

The closing of the session has two elements, a **summary** and a **termination**.

Summary

The summary is very brief, it reviews what has been learned, and relates it to other parts of the course. It should, if possible be preceded by questions so that any problems or misunderstandings arising from questions can be dealt with in the summary. A good way of composing a summary is to **review the objectives** to confirm that they have been achieved.

Termination

The end of the session is made clear by stating so, by dropping the voice, by gestures such as breaking eye contact, or by indicating that learners need to move to another teaching module.

Timing is important and may need rehearsing. An early finish may be good for the course organiser but finishing late may upset other instructors and learners if their breaks are shortened.

Chapter 3 - The Instructor

The demenor of the instructor is an essential part of the course presentation. Body language conveys immediate messages. A tentative or nervous start can unsettle learners.

*Some **useful tips**:*

- keep the teaching simple
- maintain eye contact with the audience (scan larger groups)
- don't move about too much
- speak clearly rather than loudly
- use pauses to make clear changes from one topic to another
- don't be afraid to use short silences to gain attention
- use humour only if it feels natural
- encourage participation amongst the learners.

And remember, always prepare and plan a teaching session.

Chapter 4 - Questioning

Questions are important aids for the instructor and learner.

For example, they can help to:

- establish the baseline level of knowledge at the start of the session
- clarify the learners' needs
- focus the learners' minds
- clarify whether the learners understand
- give feedback to the instructor – have the objectives been achieved?

Instructors can ask three basic types of questions:

1. **Yes/No questions**

A question which requires an answer that is 'yes' or 'no' does not stretch the learner and will produce a correct response 50% of the time. However it can help to engage a shy or unconfident learner so that progress to the next type of question can be made.

1. **Closed questions**

A closed question requires an answer which is specific and correct, for example "What is the recommended ratio of chest compressions to ventilations for children?"

1. **Open questions**

Normally, a question beginning with "why" would be an open question. The truly open question has no right answer. For example, "how would you go about informing the relatives of a death in the family?" Clearly there is no single correct answer but there are approaches that would not be recommended.

For **skill modules and scenarios, questions will usually be closed**. The aim is to ensure that the learners have grasped the key issues of how to perform the skill. Any discussion provides an opportunity to reinforce the procedure and link it to the knowledge set. It is a revision process with explanations.

Asking Questions

Asking the question is not enough. There needs to be care with reacting to the answers. The

aim is to help learners to learn and to enhance their confidence and skills. Comments such as “haven’t you read your manual?” undermine confidence and are destructive.

There are ways of asking questions and simultaneously giving support and encouragement to learners. Suggestions include:

- settle on an individual by **eye contact** if a question to the group as a whole produces no response. **Names** can be used to request answers
- use of hands to indicate you want someone to be involved (beckoning hand) or to stop someone (flat hand to the learner)
- use a **random approach** and avoid going round the group. Interogation raises the anxiety levels of the learner
- always **acknowledge or thank** the learner for their efforts, even if their answer is not correct
- if the answer is incomplete, ask if another learner can **help** the first. This encourages team building
- if there is generally a poor response, learners may not understand the question which may be too difficult or Try to obtain a better answer by moving from **an open to a closed or yes/no question**, and then broaden out the topic as the appropriate answers come back
- consider asking for a choice from a number of **altenative answers** to engage the learners
- use a short period of silence to elicit a response. Invariably, one of the learners will start to contribute
- at the end of the question session, take the subject back to allow the original learner to **summarise**. This gives confidence and builds on what has been said
- always **appear interested** in the answer and **show respect**.

A question and answer session is not easy and needs practice.

Varying Your Approach

Managing different types of learner may require the instructor to vary their approach.

- *The learner that cannot answer simply but has to elaborate in great details*.

When a learner stops talking for a breath, there is the opportunity to thank the learner, summarise and direct questions specifically to someone else. For a period, avoid eye contact with the talkative learner.

- *The over-enthusiastic learner who jumps in first and prevents others from contributing*.

Raising a hand, palm forward and indicating that you would like to hear another opinion may help redirect the question. Thank the learner and direct your attention (and eye contact) to others so that all in the group contribute to the discussion. At the end, the first learner can be asked to summarise. It is important learners do not feel put down.

- *The learner who talks at the same time as others, perhaps to a subgroup*.

Address the individual with a direct question. If the problem recurs, an alternative is to stop, allow silence, and then resume.

- *The learner who knows all the answers*.

Use the learner's knowledge and experience to assist with the teaching so that all can benefit, but always maintain leadership.

- *The learner who will not accept the general view of the group or is antagnostic towards the teaching*.

Move on by summarising and introducing the next topic with which the leaner may agree. Open a discussion with the leaner at the first available break and ensure that other instructors are aware of the problem. Remind the learner that emergencies require team work and engage support from other instructors.

It is important to try and determine why any learner is hostile. There may be a simple explanation. For example, the learner might have been told that success in the course is essential to continue in a current job or be appointed to a new one. It is important to understand why learners have attended.

- *The shy or nervous learner whose confidence breaks down when asked a question*.

The instructor needs to build confidence in learners. Try rephrasing the question, make it simpler and tighter (more closed, or even yes/no). A correct answer will boost confidence and allow the subject to be expanded again. A gentle approach emphasising that errors do not matter in a training environment can be helpful. Encourage the group as a whole to help each other and form a team.

- *The learner who never seems to offer any answers*.

This learner may be listening, nodding in agreement and working well within the group. Talk to such individuals outside the formal sessions as there may be a good explanation for

holding back. The learner might have practical experience of the subject and not want to intimidate others. Quiet learners are not necessarily insecure; they may be satisified with their knowledge or practical skills.

Chapter 5 - Teaching Practical Skills

The aim of a skill teaching module is to combine **learning** of the skill with a *discussion of its use*.

Examples of important skills used in resuscitation are:

- airway management
- ventilation of adults or children
- chest compressions
- use of an automated external defibrillator (AED).

The three basic elements of any teaching session apply equally to practical skills:

- preparation for the session
- running the session
- closing the session.

Discussion and feedback from learners is an important component of skills teaching which provides a great opportunity for interaction.

Preparation for the Skill Teaching Module

Preparation has two elements:

- environment: layout and equipment
- objectives

Environment: Layout

It is important to consider the layout of equipment to be used for training. Ideally it would be good to have each skill module in a dedicated room but frequently, the room is to be shared between two or more modules. The learner group needs space to effectively access and use the equipment and be able to observe demonstrations.

Discussions in skill teaching modules that can be overheard by adjacent groups can distract them. Some equipment and teaching modules are inherently noisier than others. Screens can be used but these are more effective for blocking visual distractions than for excluding sound.

Environment: Equipment

This must be checked by the instructor in advance. It is essential that the instructor knows how to operate all of the equipment.

The equipment needs to be clean and in working order. **Testing it is important.**

Lay out the equipment allowing adequate access and visibility for the learners.

Objectives

Introduce yourself and describe simply the purpose of the skill teaching module, for example "to enable all of you to perform chest compressions safely".

Complicated skills can be broken down into conveniently sized components and taught separately.

Running the Skill Teaching Module

Running the skill teaching module has two aspects: **learning the skill** and the **discussion**.

The learners will be motivated to master the skill; **feedback** to them is essential.

Start by emphasising the importance of the skill and link it with the rest of the course. If the skill is to feature in any assessments, it is important to make this clear.

The key to teaching skills is to use the learners' inquisitiveness. **Sight** is the most sensitive sense and the learners will be looking for detail so the instructor's appplication of skills must be practised and **dexterity** is important.

A **four-step process** is an effective method for the teaching of practical skills:

1. *The instructor demonstrates the skill at the normal speed without explanation*.

First, tell the learners that you are going to perform the skill at the normal speed. There is no commentary, but essential instructions should be issued (e.g. calling for help). The absence of any explanation forces the eyes of the learners to focus on the skill itself.

1. *The instructor repeats the sequence more slowly with an explanation*.

The skill is now repeated, explaining what was done (and why if necessary). Mention that you are going to ask one of the learners to talk you through the skill next time.

1. *The learner talks the instructor through the skill sequence*.

For the third stage, ask a learner to tell you what you are doing as you repeat the skill. If you have a hesitant candidate it is better for the instructor to lead by performing the actions so that the learner is prompted. With a confidant candidate, the instructor can follow the learner's instructions as long as they are correct.

1. *The learner performs the skill independently.*

The final stage tells the instructor whether the learners can perform the skill and have understood it. All learners must complete this phase and master the basic skill.

Feedback to the learners should be as positive as possible. If you are correcting someone, make it clear that the skill can be difficult and that the learner can repeat it as necessary.

All the learners should be busy. Those not performing the skill can be asked to suggest improvements, or be questioned about theoretical aspects of the skill.

Closing the Skill Station

There are three elements to closing the skill teaching module:

- questions
- summary

Questions

Use questions to clear up any uncertainties amongst the learners.

Summary

The summary incorporates a quick review of the skill, its importance, the lessons learned, key issues that arose in discussion, and any links to other sessions.

Conclusion

The sequence should close on a positive note and lead into the next session.

Skill Teaching Modules: In Summary

- Preparation
- Introduction
- Four step procedure

1. Instructor does silent demonstration.
2. Instructor repeats demonstration and explains.
3. Learner talks instructor through skill.
4. Learner performs the skill independently.

- All learners must carry out the skill
- Feedback is essential
- Organise the time
- Linkages are important
- Answer questions
- Summarise
- Conclude

Chapter 6 - Discussions

Discussions form an important part of a skill or practical station, and scenario teaching. In resuscitation teaching, they are not usually planned but develop in response to questions or difficulties that the learners experience.

For constructive discussions, questions need to be tailored to the objectives of the course. For example “How would you try to prevent the casualty from inhaling regurgitated material?” is a very good way of developing a discussion on the recovery or stable side position.

Discussions develop not only during question or debrief sessions, but also during breaks. They allow learners to contribute and share their knowledge, understanding, or experience. Discussions also represent important opportunities for **reflection** and consolidation of knowledge.

Chapter 7 - Scenarios

Scenarios provide the opportunity to apply all aspects of the resuscitation course. They allow a coordination of the following aspects of learning:

- theory
- attitude
- practical skills
- teamwork and communication.

Each scenario has a:

- **preparation** phase
- **content** phase
- **conclusion** and **debrief**.

Preparation

The instructor must know the *scenario*, the *equipment* available and the *objectives* to be achieved. The *environment* must be carefully set up and *learners briefed* on the process and their roles.

Preparation and knowledge of an appropriate scenario is essential in the instructor's mind. It is vital that any scenario, no matter how simple, is **true to life**. A credible scenario cannot be run without preparing it.

Preparation: Environment

There are several elements to preparing the environment:

- **equipment should be checked** and confirmed that it is in **good working order**
- the room should be **set up**
- for the scenario plan the **layout appropriately** for the equipment and the team.

Preparation: Learner Briefing

Establish the roles of the learner(s):

- roles must be appropriate to the level of experience of the learner
- specific roles can be chosen by the learner or assigned by the instructor.

The instructor should go through the equipment with the learners and ensure they know what they have available and how it works. The learners need to understand the process. Present the scenario clearly and unambiguously.

Content

The instructor needs to be prepared to do any or all of the following during the scenario:

- *Inform the learners of*:

The initial situation.

Any changes in condition.

- *Listen*:

To key information or questions from the learners.

- *Respond*:

To appropriate questions, especially regarding information that cannot be ascertained from the equipment.

- *Observe*:

The practical skill application of the learners.

- *Intervene when necessary – always positively*
- *Ensure safety where relevant*.
- *Conclude the scenario clearly* giving the learners the notion of continuity of care – "We will look after the person now".

The scenario may be interrupted and restarted if the learners are going down the wrong track. This needs to be explained clearly and should not be a point of criticism.

In the scenarios, learners need to apply the skills and knowledge that they have learned from the manual and during the course. Reference should be made to the core sources of information.

Stopping the scenario is a rapid process which leads into the final phase. Scenarios are stopped once the key learning objectives have been met (or it is clear that they are not likely to be).

Conclusion and Debrief

The conclusion and debrief is the most important phase of the scenario and is where positive reflection enhances the learner's learning. This phase consists of a discussion or debrief with its own introduction, content and summary. It is normally a closed discussion because of time constraints.

Crucial aspects are:

- introduce the debrief
- create clarity for learners about what happened
- explore the positive aspects
- elicit suggestions for improvement
- summarise the take home messages.

Conclusion

Bring the exercise to an end in a concise and timely manner, and establish linkages to the course and to the real world.

Chapter 8 - Assessments

With assessment, instructors are challenged with two potentially conflicting roles:

- teaching learners in a helpful and supportive manner
- assessing the performance of learners.

Assessments are often considered the least enjoyable part of a course because of the associated stress. However it is important to appreciate that assessments can contribute positively to the learning process in a number of ways:

- The learner is given an opportunity to demonstrate the knowledge and skills gained from the course. As long as the course objectives are achieved, this can be rewarding and build confidence for the learner
- For the learner, the assessment is an additional learning opportunity which often consolidates knowledge.
- Even if the assessment criteria are not satisfied, the feedback gained is valuable for the learner as it identifies weak areas and the standard that needs to be achieved. It is therefore important for self-evaluation
- The instructor also learns from the assessment, by determining whether learners have been adequately taught. This represents feedback for the instructor, who can also benefit from the refresher training associated with the supervision of any assessment.

For some courses there is a requirement that the learner demonstrates the ability to apply skills safely at a specified level. This can only be determined by some form of assessment.

The aim is for the learners to pass their assessments, not fail. To help achieve this, assessments are made in accordance with specific criteria that match the goals for learning set for the course.

Many of the difficulties that arise in assessment can be overcome **by sharing or discussing the assessment with other instructors** to confirm that the conclusions are balanced and fair. Do not be afraid to postpone your conclusions whilst obtaining the opinions of other, more experienced instructors.

And Finally –

Enjoy teaching. Enjoyment is contagious and a sense of fun will gain support for the course and for you as a teacher. It will encourage learners to spread the word and attract more

people to attend courses in that most fundamental aspect of health provision, **resuscitation and emergency care.**