

FIRST AID TRAINING FOR DEGREE PROGRAMME IN NURSING STUDENTS

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Abstract <p>The skill of giving first aid is one of the basic skills each person should have. At some point of their life many people face a situation where first aid is needed. The Finnish legislation states that people have a general obligation to help anyone who is a victim of an accident.</p> <p>The purpose of this practical thesis was to plan and organize first aid training for the first year students of the Degree Program in Nursing. The goal of the project was to teach the students the basics of emergency first aid and give basic information about first aid, calling for help and giving life saving first aid.</p> <p>The first aid training was organized during two consecutive days in November 2013. The first day included a 4-hour-long theory part, which was prepared by using the latest first aid knowledge. During the second day the students had an opportunity to practice the skills that were learned in the theory part during the previous day. The practical training part was organized in two 3-hour-long sessions for half a group at a time.</p> <p>Feedback was collected from the participants after the training. The outcome of the feedback was positive. The students felt that the arrangements, methods and content of the course were good. The goals that were set before the course were met and the arrangements for the course were successful.</p>		
Keywords First aid, first aid training, education, teaching, learning, students		
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<p>Tiivistelmä</p> <p>Taito ensiavun antamiseen on yksi niistä perustaidoista, joita jokaisella ihmisellä tulisi olla. Lähes jokainen joutuu elämänsä aikana tilanteeseen, jossa tarvitaan ensiapua. Suomen laissa on säädetty yleinen auttamisvelvollisuus, joka velvoittaa auttamaan onnettomuuteen joutunutta.</p> <p>Tämän toiminnallisen opinnäytetyön tarkoituksena oli suunnitella ja järjestää ensiapukoulutus ensimmäisen vuoden Degree programme in nursing –opiskelijoille. Tavoitteena oli opettaa opiskelijoille hätäensiavun perusteet sekä antaa perustietoa ensiavusta, hätäpuhelun soittamisesta ja henkeä pelastavan ensiavun antamisesta.</p> <p>Ensiapukoulutus järjestettiin kahtena peräkkäisenä päivänä marraskuussa 2013. Ensimmäisen päivän aikana käytiin läpi viimeisintä ensiaputietoutta hyödyntäen valmisteltu neljän tunnin mittainen teoriaosuus. Toisena päivänä opiskelijat pääsivät itse harjoittelemaan käytännössä edellisenä päivänä teoriassa läpi käytyjä asioita. Käytännön harjoitukset järjestettiin puolikkaalle ryhmälle kerrallaan kolme tuntia kestävinä rastikoulutuksina.</p> <p>Koulutuksen jälkeen osallistujilta kerättiin palaute, joka oli pääsääntöisesti positiivista. Osallistujat kokivat järjestelyjen, käytettyjen opetusmenetelmien ja kurssin sisällön hyväksi. Kurssin järjestäminen onnistui hyvin ja sille asetetut tavoitteet saavutettiin.</p>		
Avainsanat (asiasanat) Ensiapu, ensiapukoulutus, opettaminen, oppiminen, opiskelijat		
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CONTENTS

1. INTRODUCTION	4
2. FIRST AID AS A PART OF NURSING STUDIES.....	5
2.1. Importance of first aid training	5
2.2. Learning and teaching first aid	5
3. THE AIM AND THE PURPOSE OF THE PROJECT	7
4. FIRST AID TRAINING AS A PROJECT	8
4.1. First aid training as a practical thesis.....	8
4.2. Background of the project.....	9
4.3. Timing the project.....	9
5. PLANNING AND CARRYING OUT THE TRAINING	10
5.1. Starting point of the training	10
5.2. Days of training.....	11
5.2.1 The day one - theory.....	11
5.2.2. Day two – practical training.....	12
6. FEEDBACK	15
7. DISCUSSION	16
REFERENCES	20
APPENDICIES	22
Appendix 1. Power point presentation that was held during the theory day.	22
Appendix 2. The checklists that were provided to the checkpoint leaders.....	47

TABLES

Table 1. The average points from the feedback form.....	16
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1. INTRODUCTION

First aid is one of the basic skills that every person should have. It is also a skill that many people need at some point of their life. Authorities assume that every citizen is capable of estimating the situation and calling for help. Those who have some knowledge are expected to give life saving first aid, which include recovery position, stopping massive bleeding, basic resuscitation and first aid for suffocating patient. (Korte & Myllyrinne 2012, 127; Väyrynen & Kuisma 2013, 269-270.)

Finnish legislation demands other person to help in case of emergency (L 29.4.2011/379; L 3.4.1981/267). Because of this authorities also assume that citizens are ready to start first aid and to call for help (Väyrynen & Kuisma 2013, 269-270). There is no systematic training for first aid. Therefore first aid should be included in basic education.

The idea of this thesis was to arrange first aid training to first year degree programme in nursing students. The thesis consists of first aid training days and this thesis report. The purpose of the training was to teach first aid skills to students, so that they know how to act in a sudden situation. The goal was to get everyone to take part actively in the training and get the students to learn first aid skills through theory and training. After the training the students are prepared to give life saving first aid and their threshold to help is lower.

The training was arranged on 4. - 5.11.2013, where the first day consisted of theory and the second day was practical training day. The training concentrated to emergency first aid topics and concentrated on resuscitation, recovery position, stopping major bleeding and treating a patient with an airway obstruction.

2. FIRST AID AS A PART OF NURSING STUDIES

2.1. Importance of first aid training

First aid is an essential part of the chain that aims to help people who are in need of medical care. The most important thing in first aid is to notice the situation and to call for help. Calling for help is a simple thing to do, but also the most important thing to ensure that the patient will get professional help. In addition to calling for help, the majority of the life saving first aid actions are very simple and easy to perform after a short practice. The only way to get familiar with these skills is to practice and train first aid skills. (Korte & Myllyrinne 2012, 8.)

First aid can be considered to be one of the basic skills of every person. Authorities assume that every citizen is capable of estimating the situation and calling for help. Those who have some knowledge about first aid are expected to do life saving actions needed, such as recovery position, stopping massive bleeding, basic resuscitation and first aid for suffocating patient. (Korte & Myllyrinne 2012, 127; Väyrynen & Kuisma 2013, 269-270.)

Despite the high expectations of authorities, in population there is still lack of skills or courage to help. On the field cardiopulmonary resuscitation (CPR) is given to about 50% of the patients whose heart has suddenly stopped. A part of this percentage is performed after the CPR instructions given by emergency response centre. To get the amount of the helpers higher there should be systematic teaching of first aid skills in schools and working places. (Väyrynen & Kuisma 2013, 270.)

2.2. Learning and teaching first aid

Learning is described as a persistent change of behaviour that happens in a person through experiences. It is an individual process in which the person

processes information and experiences and forms an understanding from the learned topic. The goal of a learning process is to achieve consistent changes in behaviour of individuals so that the new knowledge guides the future action, understanding and values. (Kauppila 2003, 17; Kuusinen & Korkiakangas 1993, 23; Ruohotie 2005, 11.) In first aid this means applying the learned first aid skills into action by calling for help and performing life-saving first aid.

There are many different theories of learning. The constructive theory of learning is nowadays the most widely used and approved learning theory. According to the constructive theory, learners are building their picture of the world and topic that is learned on top of earlier knowledge and experiences. In constructive learning theory a teacher does not just pass the information on, but guides the learning process. A teacher still has got an important role in presenting the information, but the key is how to make it the way that learning process is supported. According to the constructive theory learning is strongly a social process in which the learner is affected by the surrounding people. (Leppilampi & Piekkari 2001, 6-7; Tynjälä 1997.)

Motivation is one of the most important factors of efficient learning. Good motivation will get a person to achieve the goals and aims that have been set. Motivation can be described as an inner process that activates energy to learn and controls the learner's actions. (Kauppila 2003, 43.)

The term peer learning is commonly used when persons in the same position learn something new through interaction with each other. Behind the term of peer learning are the constructive learning theory and the theory of zone of proximal development (ZPD) by Vygotsky. According to the theories learning is most efficient when the new thing to learn is close to the previous knowledge. Learners in a peer group form knowledge together through conversation, questions and thinking. Those who have a higher level of knowledge can guide others forward step by step. (Vygotsky 1978)

The term skill refers to action, but it also demands thinking. A skill is not only doing something, but it is necessary also to understand how and why the skill is performed and what are the wanted effects of it. A skill is a way to combine theory and action. Learning skills needs practice and repetition. (Lauri 2007, 92-93) Usually the situation that calls for first aid appears suddenly. At that point there is no time to practice skills in the moment, but action has to come automatically. Repetition and practice are the only way to learn to act in a sudden situation. (Salakari 2009, 170-171.)

Knowledge can be acquired without action for example by reading. In many cases learning is difficult if the theory is not accompanied by practice. Learning by doing is a natural way to learn a skill in situations where the assessment of the situation and applying the knowledge is needed. (Turunen 1999, 154.) In first aid one needs first to assess the situation and then to apply the knowledge learned to help the patient. Therefore learning by doing works very well in learning first aid skills.

3. THE AIM AND THE PURPOSE OF THE PROJECT

The aim of this project is to plan and to organize first aid training for the first year degree programme in nursing students in the JAMK University of Applied Sciences in Jyväskylä. The purpose of the training is to give the students the basic knowledge of emergency first aid and a possibility to practice first aid skills with each other and to share their own experiences on the subject. After the training the students are prepared to recognize a life-threatening situation, call for help and give life saving first aid.

The students are likely to face an accident or a sudden illness during their studies, practical training or free time. After the training the threshold to help in sudden situation will be lower because the students are familiar with the ways to help in different situations.

4. FIRST AID TRAINING AS A PROJECT

4.1. First aid training as a practical thesis

A practical thesis may be teaching, guiding or arranging some activity. The aim group is the most important factor that defines how the practical thesis is done. A practical thesis can be for example a guide leaflet, a guidance program or a project. A practical thesis consists of a practical part and reporting of what has been done. It is recommended to have someone to order the work from the student. Therefore the work will show the skills of the student better especially in the fields of project management and responsibility. (Vilkka & Airaksinen 2003, 9, 16-17.)

A project is a process that has a purpose and lasts for a certain time. It can have only one goal or be a part of a larger entirety. All projects have defined starting and ending points. A project has to be planned, organized, carried out, controlled, followed and estimated. A project has a project plan that explains what is done in the project, how it is done and why it has been done that way. A project also has an end report that shows what has been achieved through the project, how the project met the aims and the goals and an estimation of the project. (Vilkka & Airaksinen 2003, 48-49.)

The idea of arranging a first aid course to the first year nursing students was very interesting from the beginning. This topic would concentrate on the field of studies that I am interested in and also deepen my knowledge about it. This topic also challenged my skills in organizing an event and keeping lectures. Vilkka and Airaksinen (2003, 24) also recommend choosing a subject for the thesis that is interesting and motivating for the one who does the work. Because first aid and acute care have been the most interesting field of nursing for me, I had been looking for thesis topics from that field.

4.2. Background of the project

First aid training is a part of the compulsory studies during the first year and it is included in a study module called Clienthood in social and healthcare services. During the course the students will have theoretical and practical knowledge about the topic. Through these students threshold for giving first aid in sudden situation will be lower. The course is planned to include approximately the same content as the emergency first aid course provided by the Finnish Red Cross (Emergency first aid course 4h).

4.3. Timing the project

The project started in mid-august, when I heard about the possibility of arranging a first-aid training as a thesis. In the beginning the project started to move forward quickly. In the very beginning I started to search for information about the topic, to read material and to plan the content of the training.

There were small difficulties in adjusting the training days to the schedule of the students. Finally few weeks before the actual training the days were decided. The days of training were held on the 4th and the 5th of November. The first day consisted of theory and during the second day we went through practical training of the skills on three different checkpoints. In the checkpoints there were other nursing students helping in the arrangement.

After the days of training were decided the arrangement of classrooms and recruitment of helpers for practical training was started. The students were motivated beforehand by making a poster that included the information about the training. In the poster there was information about the main topics of the training and information on the schedule. Because of the high usage rate of the classrooms in the school premises it was a bit difficult to find free

classrooms for the training. Couple of days before the training was held the classrooms were confirmed and everything was ready.

5. PLANNING AND CARRYING OUT THE TRAINING

5.1. Starting point of the training

There have been studies about the first aid knowledge of the first year nursing, physiotherapy and sociology students. The first aid skills of the students have shown to be insufficient unless taking part in first-aid course. It is also clearly shown in the studies how first aid courses improve the students' skills in first-aid. (Lehtimäki, Mäki & Varis 2012; Kuosa & Leväniemi 2007.)

The degree programme in nursing students come from different backgrounds and cultures and can therefore have different skills and amounts of practice in first aid. The group consist of 50 students. The majority of the participants had some knowledge about first aid, which was determined trough conversation and introduction in the beginning of the theory day.

All the students were given the same teaching despite their background or prior experience of first aid. This was done to give every participant similar kind of training. Because the training was planned to be similar to everyone, there was no need to have questionnaire before the course to find out the level of knowledge. Despite the possible prior knowledge there is always need for repetition and practicing the skills as it was shown in the studies of Lehtimäki (2012) and Kuosa and Leväniemi (2007).

Since the participants come from different cultures and backgrounds the training was planned to use the diversity during the lectures. Hearing about the students' experiences would be interesting for the other students and also for me. Examples make it easier to take a position of caregiver and to think

how would one react in different situations. Also the study of Hyväri (2013, 17) shows that the teachers own experiences from real life situations are interesting for students to hear. This was taken into account during the project and sharing own experiences was included in the lectures. The examples started from the first aid and continued to professional care and to the continuing of the treatment.

The planning of the course was done mainly according to the size of the group and to the topics that were included in the emergency first aid. Study of first aid skills of first year nursing students (Heikkilä, Jetsu, Hyväri 2013) was also taken into account when planning the project.

5.2. Days of training

5.2.1 The day one - theory

The planning of the first aid training was done according to the group of students. The group consists of 50 first year nursing students. Theory part was possible to teach for a bigger group at once. This was also the only reasonable option to keep the time used for the whole group in control. The theory part of the training was held on the 4th of November 2013. For the lecture there was a big classroom reserved for 4 hours, which was sufficient time to go through all the topics and have time also for questions, comments and discussion. The timing was planned carefully and during the planning process I discussed with different people to estimate the right length for the lectures.

The topics of the lectures during the theory day:

- The basics of first aid
- Assessment of the situation and calling for help
- Unconsciousness
- Resuscitation
- Airway obstruction

- Shock
- Wounds, fractures and burns

For the theory day I had prepared a Power point -presentation (Attachment 1) that covered all the topics. In addition to that there was some demonstrative videos to see an example on how the things are done in action. In addition to the basic emergency first aid in the topics there were a bit about wounds, fractures and burns. Since they all are common in everyday life it was reasonable to include them in the lectures. During the planning process the content was limited to the most important parts of emergency first aid, which was a good decision to keep the course compact.

I was keeping the presentation of the theory day myself so that I had the timing in control all the time. I had also studied the latest first aid knowledge and I was familiar with the topic. To make it more interesting for the students and to motivate students I tried to encourage them to actively take part in the conversation and to tell about their own experiences. This gave the students also participating role in the teaching.

5.2.2. Day two - practical training

The practical training was held on the second day. First aid consists of many practical things that need also practical training to get familiar with the topic. In practical training the groups were practicing the needed skills in role-play, where they can feel the role of the caregiver. Role-plays have been proven in the study of Hyväri (2013) to be a good way of learning first aid skills.

The big group caused certain limitations especially into arranging the program for the practical training day since the maximum amount of the students for one teacher should not rise too high. The practical learning was arranged for smaller groups so that every student had sufficient time and possibility to practice the skills. The whole class was divided into two where

the first group had their session during the morning and the second group during the afternoon.

The practical skill training was arranged in three checkpoints to where the students were divided evenly. In the study of Hyväri (2013) the group size of maximum 12 persons was noticed to be good. The goal was to arrange checkpoints with small group sizes, which worked well. The sizes of the groups at the checkpoints were 6-9 students.

Each checkpoint lasted 45 minutes during which each student had a possibility to see an example, to practice the skill and to discuss the topic with the checkpoint leader. The maximum amount of students in one checkpoint was nine. Each checkpoint had 1-2 checkpoint leaders to teach and to guide the students in training as well as showing them an example on how to treat a patient in such a situation. The checkpoint leaders were instructed beforehand and they also were given checklists to help them to remember the most important things to be considered.

For the practical training day there were five persons helping at the checkpoints as checkpoint leaders. When arriving to the checkpoint the group of students got an assignment from the checkpoint leader. In every checkpoint there was a patient who needed some kind of first aid. The patient's situation was explained to the group and they had to form together a way to help the patient according to the problem. At first the students had time to think and to make a plan together on what to do and then help the patient and practice the first aid skills.

Each checkpoint leader was trained to know the topic. The action and the equipment at the checkpoints were gone through with the leaders so that they knew what to do and how to lead the group. There was a simple checklist provided to the checkpoint leaders to help them to focus on the right things

and to remember to guide the students to use the right ways to help.

(Attachment 1)

Checkpoint 1: Resuscitation.

In the resuscitation checkpoint there were two resuscitation dolls to practice the right way to give cardio pulmonary resuscitation (CPR) with. The checkpoint leaders were the first ones showing how the resuscitation is done. After the example the students practiced in guidance of the checkpoint leaders, who also corrected if there was something going wrong. The students had possibility to practice CPR alone and in pairs. Training also included calling for help.

Checkpoint 2: Unconscious patient, airway block

During the second checkpoint the students were practicing the recovery position of an unconscious patient. They also practiced how to treat a patient who has an airway block with the Heimlich maneuver. There was also discussion about possible reasons for unconsciousness.

Checkpoint 3: Wound care, shock symptoms

The topic of the third checkpoint was taking care of wounds and treating patient with shock symptoms. The Students practiced how to stop major bleeding with pressure bandage and discussed about the possible shock symptoms. In the checkpoint there was bandages to practice making pressure bandage to different areas of the body.

As an organizer of the first aid training I was not taking part in the action at the checkpoints. Therefore I could first observe that everything goes forward as planned. I was also ready to help at the checkpoints if there was any problems or questions. This gave me also possibility to ensure that the checkpoint leaders had everything in control. During the afternoon sessions one of the checkpoint leaders had to leave and I took her place at the resuscitation checkpoint.

6. FEEDBACK

After the first aid course was over, the feedback was gathered with a simple form with open questions to answer. There was also a possibility for the students to share their own experiences about the first aid training. All participants answered with numeric scale to give their opinion on the training. Written feedback was also asked, but only some of the students gave more than the numeral feedback.

The questions in the feedback form were:

- The arrangement of the first aid course was good
- The content of the first aid course was good
- The methods used on the course were good

The answers to the questions were given with numeral scale, where the number 1 meant totally agree and number 5 meant totally disagree. In total 46 students filled and returned the feedback form, which is 92 % of the participants on the course. Majority of the answers were only in numeral scale, but there were also some written feedback for the questions in 16 forms.

The average points from the scale showed that the students were satisfied with the course, its contents and arrangements. To each question the students could give a number from 1 to five to describe how well they agreed with the statement. To each question number 1 was the best and number 5 being the worst. The scale nominations were as follows: 1 - totally agree, 2 - agree, 3 - no opinion, 4 - disagree, 5 - totally disagree. The average points were calculated by summing up the total points and then dividing it by the number of the answers. The average points for each question were between totally agree and agree.

Table 1. The average points from the feedback form.

Question	Average points Scale 1-5, 1 being the best
The arrangement of the first aid course was good	1,4
The content of the first aid course was good	1,44
The methods used on the course were good	1,37
Total	1,40

The written feedback consists mostly of positive and supportive comments, such as “Good job” and “well done”. Students told that they had liked the real life experiences, but would have liked to have more of them as well. Some comments concerned the content of the course. Students wanted to have a course that has deeper knowledge on first aid and it could also include information for example on attacks of illness and more difficult scenarios.

There were also problems that came out through feedback. Mostly those were related to information about the course and some late changes in classrooms. Some students thought that they would get an official first aid card from the course.

7. DISCUSSION

First aid has been very interesting topic for me as long as I remember. That is one of the reasons why this topic was very good for me. The idea of a first aid course was motivating for me from the beginning. I had good knowledge on the topic already and therefore the planning process went forward smoothly.

The idea of how the course would be arranged was clear for me all the time. The biggest challenges were to get the equipment, facilities and people to help keeping the checkpoints. The classrooms where the course was held changed many times even in the last minute, but it didn't affect to the outcome of the course. Also recruiting people to help in the checkpoints was a bit more

difficult than I thought, but in the end it caused no problems as we had a sufficient amount of people helping.

During the planning I thought that the students would share their experiences more openly than they did in the classroom. The courage to speak in the class was different from the situations where students were with each other more casually. During the free moments between the checkpoints during the second day I could hear the students sharing thoughts with each other and discussing about the topic. It shows that they had some experience and thoughts about the subject, but were not so interested in sharing it for the whole class. Maybe there could be a way to motivate them to share more, but I didn't come up with a solution to this problem.

The goals of the project were met well. There is no way to estimate the level of skills of the participants after the course since there was no testing of the skills. All the participants were taking part in the same training. All the topics that were planned were gone through in detail and there was a chance to practice those skills as well. Some experiences from the students were shared with each other, but not in the scale that I thought beforehand. In the classroom there was only few examples from the participants, but in their discussions during the breaks there were more examples and experiences. Students were using peer learning the way I planned before. Those who had more experience from first aid were often the first ones to practice skills and show to others. Therefore those with less experience could learn from them while waiting for their turn.

My own goals concerning the project were also met well. I had a good chance to refresh my skills in first aid and make sure I have the latest information. When one teaches something the subject has to be well understood, it was a sign for me that I know what I was teaching. Answering students' questions was a good test for me to realise that I really knew the taught subject well. During the course I got good experience from teaching as well as organizing

and planning a project. Arranging equipment, classrooms and other people to help was interesting. There were also some difficulties during the project, but those were overcome and the outcome was good.

The feedback on the course was mostly positive, which is one sign that the course was successful. Anyway there is no measure to ensure what the participants learned during the course. The only real measure was to assess the actions during the second day. There it was easy to notice that the students knew the skills already well, while they were practicing first aid skills in action.

There have been other first aid trainings that have been arranged to similar types and sizes of groups. In those, the arrangements were similar in construction where theory and practical training was combined. This type of approach to first aid training had worked well in their studies, as it did in this one as well. Also the feedback was very similar after other trainings. Therefore it could be estimated that the training fulfilled its purpose and arrangements worked well. (Salmi 2010, Kuosa & Suvala 2013.)

Schedules worked very well through the whole course. During the first day the program went through a bit faster than I thought. This was mostly because I had reserved good time for conversation and student examples. Because there were only few examples and when the conversations were not very long, there was some extra time. I think there was nothing I could have done differently.

During the lectures there were nice conversations about the topic. In the conversation different backgrounds of the students was clearly seen for example through different perspectives to helping people. Some students were clearly unsure if it was legal to go and check a person you don't know, when it was obvious to others that if there is someone laying on the ground one must go there and check if everything is fine.

There were also difficulties to find persons to help at the checkpoints. With help of my classmates and other nursing students we had enough personnel to keep the checkpoints as planned.

As mentioned earlier, there is no measure to ensure that the students have learned the taught skills. Therefore it would be interesting to study the students' level of skills in giving first aid.

To ensure that the students' skills of giving first aid stays in sufficient level also in the future the students should get repetition of first aid. There should be training of the topic continuously and with intervals short enough. One way to do this could be adding advanced first aid course to later phase of studies. Then the course could also include some of the topics students were already missing, such as attacks of illness.

This project was one time event that has no planned continuation. Therefore the same need for arranging first aid training will most probably stand out the following years as well. There is no ready training material that could be used to arrange first aid training at JAMK University of Applied Sciences. That could be a good and needed project to implement in the near future so that the same work is not done each year again and again. One problem of the ready material is to keep it up to date with the latest knowledge.

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APPENDICIES

Appendix 1. Power point presentation that was held during the theory day.

EMERGENCY FIRST-AID

Includes:
General first-aid information
Resuscitation
Suffocation
Unconsciousness
Shock
Wounds and fractures etc.

Monday 4.11. 12:15 – 16:00 Theory lessons.
- Whole SNP13 class

Tuesday 5.11. Practical exercises
- Morning: 8:45 – 11.45 Rajakatu F408.1
- Afternoon: Those who were at finnish lessons
in the morning 12:15 – 15:15 Rajakatu F413

Teacher: Tuomas Syrjä SNP10

SCHEDULE FOR TODAY

- Introduction
- Basics of first aid
- Unconsciousness
- Resuscitation
- Airway obstruction
- Shock
- Wounds, fractures and burns

GOAL OF FIRST AID COURSE

- To give you basics of first aid
 - Lower the threshold to help others
 - Give ways to help in case of acute illness
 - Refresh memory on first aid
-
- <http://www.youtube.com/watch?v=P9ju80SMWZY>

WHAT IS FIRST AID

- Actions that are made to help others or yourself in case of illness or accident
- Can be given without special equipment or professional training
- Emergency first aid
 - actions that keep patient alive until professional help comes

WHY TO GIVE FIRST AID

- To keep patient alive
- Avoid more harm for patient
- Laws demand to help (tieliikennelaki chapter 4, 57§., Pelastuslaki 28 §)
- Everyone is expected to help according to their skills
 - At least call for help

RECOGNITION OF THE FIRST AID SITUATION

- Usually sudden situation, no time to prepare
- Can happen anywhere, any time and to anyone
 - Training helps to prepare in sudden situations
- Important is to keep calm and act reasonably

CALLING FOR HELP

- Emergency number 112
 - Same in all European union countries
- Do the call yourself as soon as possible when you notice or suspect that someone is in danger of life
- If you are not sure – make the call
- Don't hang up

EMERGENCY CALL

- Speak slowly and clearly
- Who is calling
- What has happened
- Where it has happened
- Answer the questions

AT THE SCENE OF ACCIDENT

- Estimate the situation – what has happened
 - Does anyone need help
- Own safety first!
- Call 112
- Warn others – prevent further damage
- Save the ones in danger, start giving first aid

UNCONSCIOUSNESS

CHECKING THE PATIENT

- Remember A-B-C
- A – Airway
- B – Breathing
- C – Circulation
- Other signs, symptoms, injuries

MEETING UNCONSCIOUS PATIENT

- Waking up the patient
- If the patient does not wake up → Call 112 and follow the instructions
- Open airway
- Check breathing
- Recovery position

WAKING UP THE PATIENT

- Calling the patient
- Shaking gently
- Causing some pain to get reaction
- If the patient doesn't wake up CALL 112
- Be careful, if the patient wakes up he/she can be scared or confused

OPEN AIRWAY

- Tilt the head carefully backwards and lift the chin upwards

CHECK BREATHING

- Listen, look and feel
- Check airflow
- Chest movements
- Breathing sounds
- Estimate if the breathing is normal
 - Density, breathing work
 - Normal breathing is almost unnoticeable (agonal breaths)

RECOVERY POSITION

- Turn patient to the recovery position
- Ensure that airway keeps open
- Observe until professional help arrives
- Keep the patient warm

- Child patient is treated the same way

- <http://www.youtube.com/watch?v=uCDa-AhrjHo>

REASONS FOR UNCONSCIOUSNESS

- VOI IHME!
- Vuoto kallon sisällä (intracranial bleeding)
- O₂ puute (hypoxia)
- Intoksikaatio (Intoxication)
- Infektio (Infection)
- Hypoglykemia
- Matala verenpaine (Low blood pressure)
- Epilepsia (Epilepsy)
- ! (Simulation)

REASONS FOR UNCONSCIOUSNESS

- M – Meningitis
- I – Intoxication
- D – Diabetes
- A – Anoxia
- S - Shock

RESUSCITATION

RESUSCITATION

- The main idea of resuscitation is to maintain blood circulation and oxygen supply to important organs during cardiac arrest
- Not a way to keep the patient alive for long
 - Getting more time to the patient
- The goal of resuscitation is to get a stopped heart to pump again

CARDIAC ARREST

- The end of mechanical pumping action of heart
- No pulse can be felt from arteries = not enough bloodflow to the important organs
 - There might be still contractions of heart but not sufficient to maintain enough bloodflow for organs
- The patient is lifeless when there is no reaction and airflow
- 70-110 cases / 100 000 inhabitants/year

WHAT AFFECTS PROGNOSIS

- Time
 - Brain tissue starts to damage within minutes without oxygen
- Quick defibrillation is essential in most cases
- Electrical activity of the heart
 - Start rhythm

DEFIBRILLATION

- An electrical shock to stop hearts chaotic electrical activity (VF, VT) and turn it into an organized rhythm
- Defibrillators can be often found in airports, commercial centres etc.

STEPS OF TREATING LIFELESS PATIENT

- Recognition of the situation and calling for help quickly
- Moving the patient on a hard surface
- Uncovering chest
- CPR
- Continuous compressions

RECOGNIZING LIFELESS PATIENT

- Waking up the patient
- Open airway
- Checking airflow
 - Have to feel the flowing air
 - Chest movement is not enough (agonal breaths may occur)
- Call for help (112, shouting for help etc.)

MOVING PATIENT?

- CPR is efficient only on hard surface
- If needed move the patient on a hard surface most commonly on floor or ground
- Free space around if possible

- Reveal chest if it is easy to do
 - Finding the right spot for compressions is easier
 - Needed for defibrillation

START CPR

- 30 compressions + 2 rescue breaths
- Continue with the rhythm 30-2 until professional help tells you to stop or the patient wakes up
- No breaks
 - Every break in compressions collapses the circulation
- Change the person doing compressions after 2 mins if possible.

CPR COMPRESSIONS

- Pressing site in the middle of sternum (nipple line)
- Place the heel of one hand in the middle of the patients chest and the other hand on top of it
- Elbows locked, arms straight
- 100 times/minute, 5 cm deep
- http://www.youtube.com/watch?v=uu9W4ln_Pyo

RESCUE BREATHS

- Open airway
- Close the nose of the patient with your fingers
- Place your mouth firmly against the patients mouth
- Blow calmly and observe chest movements at the same time

RESUSCITATION OF CHILDREN

- Most common reason for cardiac arrest of a child is lack of oxygen
- Therefore heart can start pumping again spontaneously even after short resuscitation
- Start with 5 rescue breaths
 - Blow according to the size of the child
- Continue with the rhythm of 30:2
- <http://www.youtube.com/watch?v=aamJ2UApBF8>

AIRWAY OBSTRUCTION

SYMPTOMS AND SIGNS OF AIRWAY BLOCK

- Partial airway block
 - Gaspings, noisy and laboured breathing work
 - Some airflow can be felt
 - Patient coughing
 - Anxiety or agitation
 - Skin pale or bluish

SYMPTOMS AND SIGNS OF AIRWAY BLOCK

- Total airway block
 - Patient is not able to speak, cough or breath
 - Breathing efforts visible with no help
 - Face grayish and lips bluihs from the lack of oxygen
 - Both hands on the throat

SUFFOCATION

- Go behind the patient
- Bend patient to lean forward and give 5 back blows
 - Check the airway / mouth after each
- If the back blows don't help, call for help
- If the back blows don't help, give 5 abdominal thrusts
- If doesn't help, alternate 5 back blows and 5 abdominal thrusts
- If the patient goes lifeless call 112 and start CPR (30:2)
- <http://www.youtube.com/watch?v=SwJlZnu05Cw>

SHOCK

CAUSES OF SHOCK

- Massive bleeding
 - Internal or external
- Difficult fractures (cause bleeding)
- Burns
- Loss of fluids (diarrhea)
- Heart failure
- Allergic reaction
- Diabetic shock

SYMPTOMS OF SHOCK

- Pale, cold and sweaty skin
- Restless patient, later confused
- Dense breathing
- Dry mouth, feeling of thirst
- Fast heartbeat, difficult to find

TREATMENT OF A SHOCK PATIENT

- Keep the patient in rest in a comfortable position
- Call 112
- Keep the patient warm and calm
- Don't give anything to eat or drink
- Follow breathing and circulation
- Treatment of causes (bleeding etc.)
- <http://www.youtube.com/watch?v=4-cPuXaZACg>

WOUNDS, FRACTURES, AND BURNS

BLEEDING

- Bleeding is caused by damaged veins or arteries
- Blood volume
 - About 4,5 to 5 litres on adults
- Bleeding more than 20% causes shock
 - Difficult to estimate the amount of bleeding
- Internal bleeding is almost impossible to notice

TREATMENT OF MASSIVE BLEEDING

- Direct pressure to wound
- Lay the patient down
- Elevate the bleeding limb
- Pressure bandage
- Call 112
- If there is a foreign object in the wound, do not remove it unless it causes breathing problems

FRACTURE SYMPTOMS

- Pain
- Swelling
- Tenderness
- Abnormal movement
- Mislocation

BLEEDING IN FRACTURES

- There is always bleeding associated with fractures
- In big bone fractures bleeding may cause shock
- Amount of bleeding
 - Tibia 500ml
 - Femur 1000-1500ml
 - Pelvis up to 3000ml
 - Open fractures even more..
- Also damages in tissues around
 - Nerves, muscles, tendons

TREATMENT OF FRACTURES

- Support the injured limb - avoid extra movement
 - May cause damage under skin
- No need to make splint, if there is help coming
- If you need to move the patient you can use something to support the injured area
- If you suspect injury of spine (falling etc.) do not move the patient if it's not necessary

BURNS

- Heat
- Chemical
- Electricity
- Damage on skin and/or tissues below

Picture: <http://www.ic.sunysb.edu/Stu/wilee/BURNS.JPG>

FIRST AID OF BURNS

- Cool down the burnt area as soon as possible with cool (not cold) water
- Do not pierce blisters
- May be covered with clean bandage or special bandage that is meant for burns

MEDICAL ATTENTION NEEDED IF

- The Burn is infected
- Second degree burn is bigger than a hand
- Any third degree burn
- Burn from electrical current
- Deep burns in hands or face
- Any burn in airway
- Children, elderly, diabetics

QUESTIONS?

Feedback?

REFERENCES

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Appendix 2. The checklists that were provided to the checkpoint leaders.

Checkpoint 1.

Resuscitation:

Divide group in half. Make groups of 3-5 to think how to treat lifeless patient (2-3 mins).

Go through their thoughts. Have a short discussion about the topic to remember what to do.

After it's done, demonstrate what to do, when meeting lifeless patient:

- Approaching site. Make sure it's safe
- Trying to wake up patient. Speak first, shake, pinch.
- No response -> call for help
- Open airway by tilting head backwards, check for breathing → no airflow
- Reveal chest, give 30 compressions
- give 2 rescue breaths
- continue with 30:2 until help comes

Practice of situation in pairs. Pay attention to:

Rescue breaths:

- open airway each time
- pinch the nose
- observe chest movements at the same time

Compressions:

- right place for compressions (nipple line in the middle of sternum)
- right density (100bpm, beat of "staying alive")
- about 5cm deep
- no breaks in compression

Checkpoint 2.

Unconscious patient, suffocation:

UNCONSCIOUS PATIENT

Divide group in half. Make groups of 3-5 to think how to treat unconscious patient (2-3 mins).

Go through their thoughts. Have a short discussion about the topic to remember what to do.

After it's done, demonstrate how to check unconscious patient and turning the patient into recovery position (kylkiasento):

- Approaching site. Make sure it's safe
- Trying to wake up patient. Speak first, shake, pinch.
- No response -> call for help
- Check for breathing → patient is breathing
- put patient into recovery position
- keep patient warm and observe continuously until help arrives

Practice the situation in pairs. Pay attention to:

Checking airflow for long enough (10 seconds to ensure breathing is continuous)

Comfortable position to patient after turning into recovery position.

Keeping patient warm and continuing the observation

SUFFOCATION

Again in small groups. First think how to treat patient in case of blocked airway.

Go through and have a short discussion about the topic.

Demonstration + practice in pairs.

- First ask patient to cough
- 5 Back blows (läpsäytys selkään)
- Call for help
- 5 abdominal thrusts (Heimlich)
- Be ready for CPR if no result.

If there is leftover time, go through small items (insulin pens, nitro spray) that may be hints from reason for unconsciousness and discuss about other possible signs. (bracelets, necklaces etc.)

Checkpoint 3

Wounds, fractures, shock symptoms

Divide group in half. Make groups of 3-5 to think how to treat a patient that has deep cut in hand and shock symptoms. (2-3 mins).

Go through their thoughts. Have a short discussion about the topic to remember what to do.

After it's done, demonstrate what to do, when meeting patient like this:

- Calm down the patient (rest, seated or lying down)
- pressure to wound
- Compression bandage
- Call for help
- Observing shock symptoms (Pale, sweaty & cold skin, breathing density high, fast weak pulse)
- keeping patient warm (lift legs)

Practice the situation in pairs. Pay attention to:

Continuous pressure to wound site

Calming down the patient

Observing patient for shock symptoms

If extra time: Practice bandages in different places (wound is not always in hand).

Practice supporting fractured limb in body with bandages.