

# CREATING AN ORIENTATION FOLDER FOR INTERNATIONAL NURSING STUDENTS

Traumatology, ward 20

Linda Adam  
Terhi Kuisma

Bachelor's Thesis  
October 2011

Degree Programme in Nursing  
School of Health Care and Social Studies



JYVÄSKYLÄN AMMATTIKORKEAKOULU  
JAMK UNIVERSITY OF APPLIED SCIENCES



Author(s) ADAM, Linda KUISMA, Terhi	Type of publication Bachelor's Thesis	Date 03.10.2011
	Pages 18	Language English
	Confidential <input type="checkbox"/> Until	Permission for web publication <input checked="" type="checkbox"/>
Title CREATING AN ORIENTATION FOLDER FOR INTERNATIONAL STUDENTS Traumatology, ward 20		
Degree Programme Degree Programme in Nursing		
Tutor(s) PALOVAARA, Marjo		
Assigned by Trauma ward of Central Finland Central Hospital		
Abstract <p>The objective of the thesis was to plan and produce an orientation folder for international nursing students practicing on ward 20, Central Finland Central Hospital. The purpose of the folder is to give an introduction of the ward itself, the patient groups and daily routines in order to help the students integrate and to allow an independent working style.</p> <p>A survey was used to find out about the necessity of orientation folders according to the students. Questionnaires have been sent out to the Degree Programme in Nursing study groups, namely SNP8, SNP9 and SNP10. The general notion was that a written orientation is needed and appreciated.</p> <p>The orientation folder includes a brief introduction of the ward itself and offers an overview of the most common injuries, such as fractures and burns, which the students most likely will encounter during their practical training. In order to ease finding one's way, the daily routines, revolving around the shifts and the daily programme on the ward, are explained shortly. As ward 20 is a surgical unit, the care cycle and the documentation differ from other units and are therefore clarified rather detailed.</p> <p>Currently, the folder is still in the trial phase and will be updated as soon as the first feedback of the students has been collected and evaluated.</p>		
Keywords Orientation folder, international students, surgical ward		
Miscellaneous Appendix: Orientation folder, 15 pages		

## CONTENTS

1. INTRODUCTION.....	2
2. AIM AND PURPOSE.....	2
3. SURGICAL CARE.....	3
3.1 PERIOPERATIVE CARE.....	4
3.2 TRAUMA CARE.....	5
3.2.1 Blunt trauma.....	5
3.2.2 Penetration trauma.....	7
3.2.3 Blast trauma.....	7
3.2.4 Thermal trauma.....	8
4. IMPLEMENTATION.....	8
4.1 SURVEY.....	8
4.2 ORIENTATION.....	9
5. RESULTS OF THE SURVEY.....	10
6. DISCUSSION.....	13
6.1 RELIABILITY.....	14
6.2 COOPERATION.....	14
6.3 LIMITATIONS.....	15
6.4 CONCLUSION.....	16
REFERENCES.....	17
APPENDIX.....	18
APPENDIX 1. TRAUMATOLOGY – ORIENTATION FOR INTERNATIONAL STUDENTS...	18

## TABLES

TABLE 1. Necessity of orientation folder.....	11
TABLE 2. Usefulness of orientation folder.....	11
TABLE 3. Necessity of additional information.....	12

## **1. INTRODUCTION**

In the year 2010, 382 road traffic accidents took place in Central Finland (Liikenneturva 2010). In 2009 over 34.200 tumbles and falls occurred among elderly people (Terveyden ja hyvinvoinnin laitos 2009) and it made up the most common reason for accidental deaths with 1188 deaths. (Statistics Finland 2009). Out of about 13.000 burns occurring every year in Finland, 1200 require hospital care, 500 of which being in need of surgery (Duodemic 1996).

Patients, like the ones in the afore mentioned statistics of both Finland and Central Finland, are only part of the patient group requiring hospital care which is provided by the Central Hospital of Central Finland and namely the trauma ward.

It offers 34 beds for patients of 16 years and older which present themselves with a variety of injuries. Most common amongst these are hip, ankle and wrist fractures, but also burns and other impairments requiring (wound) care. The patients are cared for by nurses and (specialized) physicians and supported by physiotherapists as well as social workers and members of other professions. (Timonen, M. 2009)

During this work we will describe the process of creating an orientation folder aimed at foreign nursing students practicing on the above mentioned ward. Surgical nursing, including the perioperative care, will be explained shortly and a more detailed insight into trauma, especially the mechanisms of injuries will be provided. In the later chapters we will go through the theoretical parts of the data collecting process, including an already earlier implemented survey on the necessity of orientation folders. Both reliability of the survey's results and the cooperation with the ward will be discussed in the last part.

## **2. AIM AND PURPOSE**

The main goal of this thesis is to create a folder providing short and simple information about the Traumatology ward in the Central Hospital in Central

Finland. The material which will be put together is supposed to support foreign students in their learning when coming to the ward for practical training. Most of the time students only get to know their training place by the tutor's perspective. This in itself is not a bad thing, but might leave out certain aspects of the introduction, as the tutor – usually a Finn – do has a different approach and regard for its ward, since some things or problems might not occur to him or her.

This work is written with the experience of being a foreign student and having practiced on Traumatology ward for several weeks. It is meant to empower other foreign students and support their ability to work individually. Additionally, it is hoped that this folder makes it easier for the staff to introduce the ward and its work to new students by adding a different point of view to the already experienced one of the tutor.

### **3. SURGICAL CARE**

“Surgery, the treatment of disease by means of an operation, is often the definitive form of therapy – many times even curative – for a broad range of conditions affecting all organ systems.” (Ikossi & Le 2003, 213)

The underlying diseases making operative treatment necessary may emanate from the abdominal organs, breast, skin and endocrine glands but are not limited to that. Illnesses often found in general surgery are; appendicitis, cholecystitis, pancreatitis, bowel obstruction, peri-anal abscesses and cancer in every form. Also, secondary diseases of diabetes such as leg ulcers and peripheral vascular diseases are counted in. Obesity, which now becomes a major problem throughout most of the developed countries (the worldwide prevalence nearly doubled between 1980 and 2008; WHO 2010), belongs to the field of general surgery as well, as interventions such as stomach stapling and gastric bypass procedures become more and more important. (Ikossi et al. 2003)

Doherty (2005) gives a broader picture in his book “Essentials of Diagnosis and Treatment in Surgery”. He includes burns, traumas and critical care; acute

abdomen and hernias; noncardiac thoracic surgery; upper gastrointestinal surgery; hepatobiliary surgery; lower gastrointestinal surgery; oncology and endocrine surgery; and pediatric surgery. Some of these are rather specific and often cared for on a separate surgical unit by specialised doctors and residents.

Patients undergoing some kind of operative treatment, be it an emergency situation or a planned operation, are usually referred to the appropriate ward where the perioperative care is implemented.

### **3.1 PERIOPERATIVE CARE**

It is divided into three phases: The time prior to surgery (preoperative), the surgery itself (intraoperative) and the period of recovery right after surgery until discharge (postoperative). (Digulio 2008, 477)

During the preoperative phase certain diagnostic interventions such as x-rays, scans and laboratory examinations are carried out, always depending on the type of patient and the planned operation. Other measures include the preparation of the patient. This could be carried out by inserting an i.v. line, cleaning and shaving the surgical area or educating the patient on what to expect. At last, the patient will be transferred to the Operation Room (Adam 2010)

In the intraoperative phase, the patient will be received by the operating team which usually includes the anaesthesiologist, the anaesthesia nurse, a scrub nurse, a circulating nurse, the surgeon and sometimes one or more residents for either educational purposes or assistance. After the patient has been connected to the monitors and necessary i.v. fluids have been attached, the anaesthesia will be induced and the patient's position on the operation table is adjusted according to the surgery. The operation is carried out. (Op. cit.)

The postoperative phase starts with the patient's transfer to the recovery room. The duration of stay again depends on the type of surgery, the anaesthesia and the patient's condition. After sufficient observation time, the patient will be transferred back to the ward. Here, the usual postoperative routines will be carried out. Most important are vital signs observation, proper

pain management and regular checks of the surgical site. Physiotherapy will be started later during the recovery period. (Op. cit.)

### **3.2 TRAUMA CARE**

Trauma care deals with surgical patients who have sustained certain injuries making it necessary for them to be cared for on a special ward. The type of injury depends on the mechanism via which they have been sustained.

Middlehurst (2009, 2) defines these as following: Blunt, Penetration, Blast and Thermal. However, all of these have common factors which affect the outcome. The most important to mention are the amount of energy transmission, also known as velocity or impact energy, surface area and tissue elasticity.

#### **3.2.1 Blunt trauma**

The term blunt trauma describes the process of energy transfer, resulting in tissue compression. Common situations in which these kinds of injuries may be sustained are road traffic accidents, pedestrian impacts, cycle and motorcycle accidents as well as assaults and falls.

Middlehurst separates road traffic accidents into two categories, according to the mechanism of injury: The first one is specified as “occupant collision” and includes the injuries sustained when the occupant collides with the inside of the vehicle (or the outside, in case of ejection). The second one, called “organ collision”, happens at the point of impact between the occupant’s organs and the body’s framework, namely the skeleton. In severe cases, both mechanisms of injuries are possible.

Pedestrian impact is divided by Middlehurst into three different phases, the combination making up the injury pattern consisting mostly of thoracic, head and lower extremity damage. In specific the phases are:

1. vehicle-bumper impact
2. vehicle-bonnet and / or windscreen impact and
3. ground impact.

The severity and location of injuries differ, depending on the height of the victim as well as the model and speed of the vehicle.

When it comes to cycle accidents, both cyclists as well as motorcyclists are exposed to compression and shear forces due to the lack of protective material and or / space surrounding them as it does in cars e.g. Protective clothing does diminish the severity of injuries to some degree such as leathers being at least partly preventive from asphalt burns or tight trousers reducing blood loss in the lower-extremities or, most important, the helmet protecting the head.

Both risk groups have common mechanisms of injury, but still differ from one another in severity, as there is much more speed involved in motorcycle accidents. Should the bike / motorcycle collide frontally and come to a sudden halt, the rider most likely will sustain head, chest and / or abdomen injuries as his / her forward motion will continue until something stops him / her. Cyclists are more likely to suffer femoral injuries due to collision with the bike's handlebars, additionally to the already mentioned pattern.

According to Middlehurst, assault victims often present themselves with a variety of injuries, always depending on the force applied and the instruments used. Light blows to the head may cause haematoma or open wounds. In case of major blows, one may expect fractures of the skull bone, cerebral contusions and / or extra- or subdural haemorrhage. Additionally, defensive injuries, usually on the upper limbs and hands may occur. Head and facial injuries as well as damage to the torso are possible; the latter ones happen when the victim went down and got kicked or stepped on.

Falls are most common in children and older people. The sustained injuries and their severity are affected by several factors. Middlehurst identifies these as following:

1. the height of the fall (which will influence the speed of impact)
2. the contact surface and
3. the position on impact.

Naturally, the velocity increases with the height and therefore affects the outcome. Middlehurst mentions that falls from heights three times one's own do result in serious injuries. Factors such as hard ground, concrete, for example, make a difference and result in compression injuries. Additionally,



the impact position influences the location and severity of injuries. Landing on one's feet will most probably affect the feet, femoral necks and the spine. Landing flat might lessen the extent of the wounds as the energy is transferred to a wider area.

### **3.2.2 Penetration trauma**

Opposed to blunt trauma, debris e.g. parts of clothing, can be tracked into the wound which poses a risk of infection if not recognized. Organs which in themselves are not elastic or own a rather rigid shell are more likely to sustain worse injuries than ones which can buffer the impact somewhat.

Stab wounds, mostly by knives, are always caused with low energy and fabricate a wound which usually is rather straight but also has an unknown depth. This makes evaluating the severity of the wound difficult, as it is not possible to estimate the damage. However, Middlehurst describes that men and women tend to use knives differently; men rather stab upwards whereas women are more likely to stab downwards. This knowledge somewhat allows to picture the damage done to the body parts not visible, given that the attacker is known.

Impalements are rather uncommon and mostly accidental as well, but can include basically any body part.

### **3.2.3 Blast trauma**

Blast injuries or explosions may cause multiple traumas and be life-threatening at that. Middlehurst divides the injuries according to the sequence of sustainment. Primary blast injuries are caused directly by the shock wave and usually damage organ such as lungs, gut and eardrums. Oedema, bruising and rupture as well as the possibility of pneumothorax and / or air embolism is given with lung injuries. Secondary blast injuries are sustained by flying objects, caused by the explosion. These wounds can be all of the aforementioned types of trauma. Tertiary blast injuries are caused by the impact to wall or ground after being lifted by the shock wave. As well as with the above explained section, the sustained injuries can be a combination of all trauma types.

### **3.2.4 Thermal trauma**

Burns present themselves with a variety of causes, most often it is due to heat, and according to these with different outcomes and injuries. Cole (2009, 174) classifies burns as following:

Scalds (caused by hot liquids or steam), open flame and contact with hot surfaces. Additionally, chemical agents and contact with electricity may cause burns or at least a heat response.

## **4. IMPLEMENTATION**

In order to find out about the students experiences and wishes, it was decided to use a quantitative approach as we felt it would serve our purposes best. Descriptive studies, especially cross-sectional studies offered the best way to acquire the necessary information. According to Hopkins (2000), cross-sectional studies are designed to analyse certain variables of interest and then determine the relationship between them. We decided to carry out these studies by implementing a survey, specifically a questionnaire, addressed at the international students in the Degree Programme in Nursing of the Jyväskylä University of Applied Sciences.

### **4.1 SURVEY**

According to Neutens and Rubinson (2001, 102), a survey approach ought to include a clearly defined research problem, appropriate questions to gain information and a well-systemized data collection technique. The research questions should address the what, who, where and when of the survey.

As Treacy and Hyde (1999, 66) advise, data ought to be collected from all participants in the same manner. If more than one person is involved in the data collections process, assurance should be given that they are working in the same way. To follow these suggestions and to avoid possible misunderstandings and confusion, only one of the authors handled the questionnaires and was contact person to the students, should questions have come up.

Neutens et al. (2001, 107) discuss the advantages and disadvantages of questionnaires sent by mail, but many of them also apply to the modern version; the web-based survey: Savings of money, no interviewer bias and the possibility to cover a relatively large number of people regardless of their geographic location are the most important for the authors. A greater assurance of anonymity as well as the option to complete the questionnaire at a suitable time is probably most appealing to the addressees.

For both postal and web-based mail surveys, the lack of flexibility, a possible low response rate and the uncertainty of getting together all the answers before the deadline date may make the implementation difficult. Nonetheless, as the authors wanted to reach as many of the students possible, the advantages of a questionnaire outweighed the negative sides.

Using free software, namely Free Online Surveys, we launched the first version of the students' questionnaire at the end of February and got the results ten days later. Based on our supervisors' professional advice, we changed the questionnaire and launched it again in the beginning of April.

Even though the survey was conducted in regard to the writing process of the orientation folder, the questions asked aimed at getting the students' experiences with wards' orientation folders and to find out whether they were considered necessary.

## **4.2 ORIENTATION**

Orientation refers to all measures needed to help new employees learn their jobs, work place's habits and routines, people and the expectations that come with the position. Job orientation and guidance is proactive work safety. When orientation in a work place is well done, there are multiple benefits for the new worker and for the work place: learning gets more effective and the time needed to learn new issues shortens, a positive relation to the work and the working environment increases the engagement to the work. Also, safety risks decrease when the worker is aware of the dangers of the work and the environment and is able to function in a way to prevent accidents. Also,

different costs decrease when extra distractions and risks are diminished. (Penttinen & Mäntynen 2009).

We chose to create a folder as a method of orientation, as it offers several advantages. For one, it is easily accessible as well as borrowable if necessary. Depending on the size and content it can be carried along during work or be stored in a place where needed. Additionally, pictures and graphics may make it more descriptive without making computer access a necessity, as would be the case with a Power Point presentation, for example.

When we started making the orientation folder for the trauma ward, we interviewed the head nurse concerning the ward's interest. Basically, the idea was to introduce the ward, give an overview picture of the most common injuries that are treated there, tell about the ward's daily routines, talk about the care cycle of the patient and finally give useful phrases for the students.

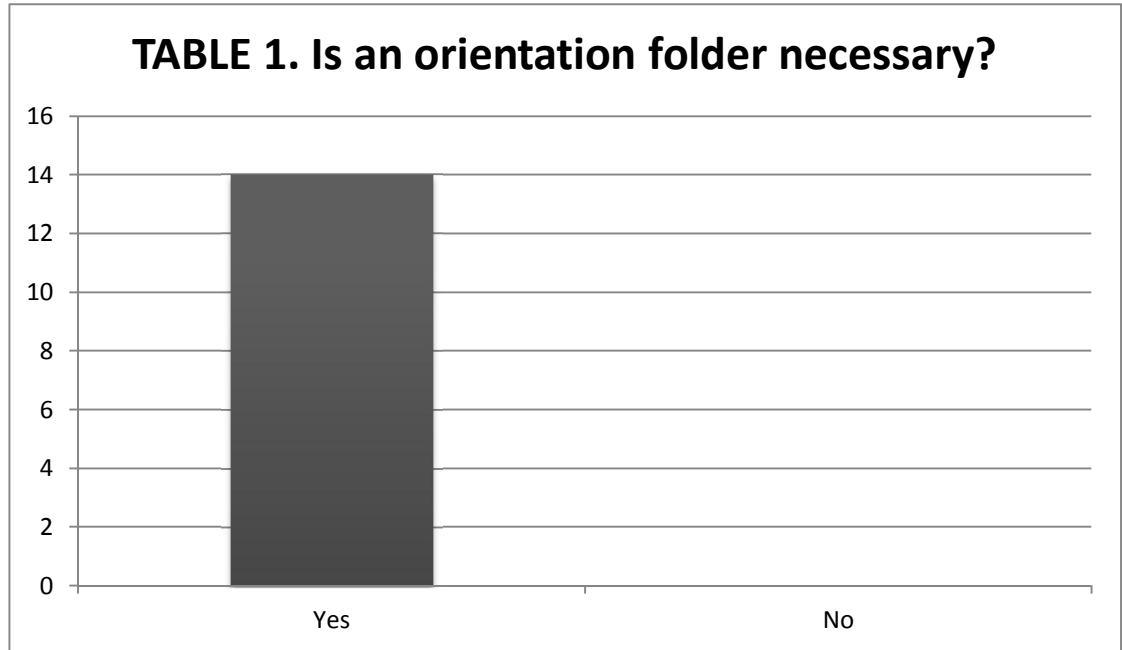
## **5. RESULTS OF THE SURVEY**

Although the students' questionnaire has been sent two times, only the results of the second and final version will be presented. For one, the results of the earlier one are not accessible anymore. Further, they are not considered as vital as the latter ones, as the questions have not been revised by the supervisors.

All in all 14 students answered the survey, the same number which replied to the first version. The authors had hoped for a more active participation, especially since it was sent out to about 60 students of which approximately 45 are still in the middle or beginning of their studies and could profit the most from the implementation of the findings.

The survey revealed that students considered an orientation folder a must on the wards. (See Table 1.)

TABLE 1. Necessity of orientation folder



However, it also showed that there is still room for improvement regarding the folders' content. (See Table 2. and Table 3.)

TABLE 2. Usefulness of orientation folder

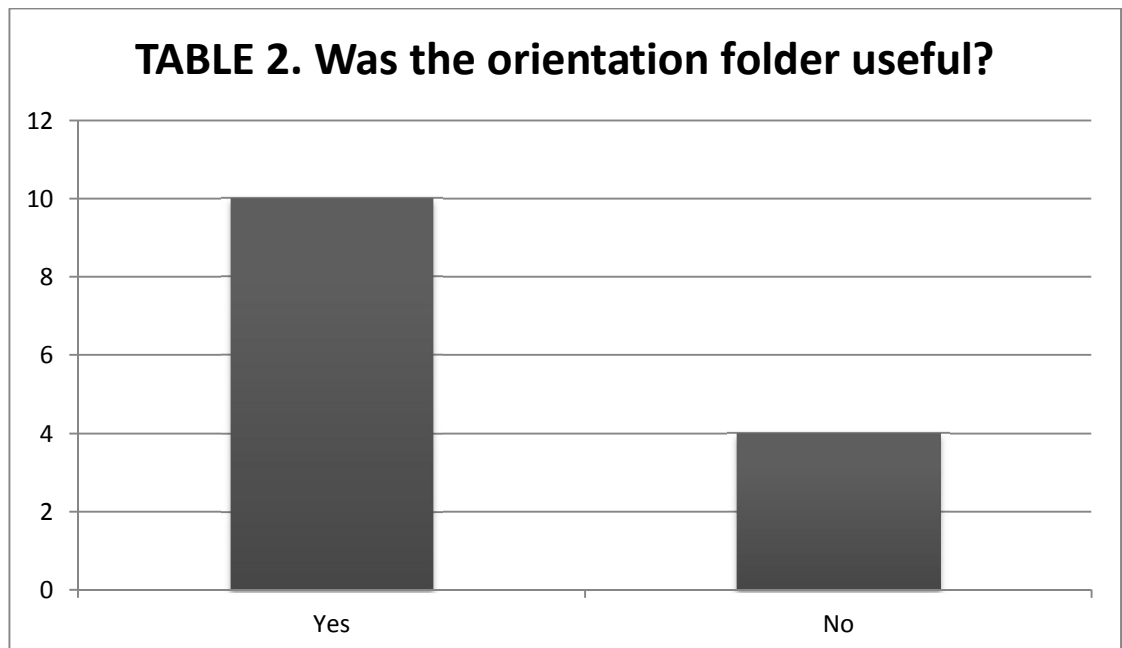
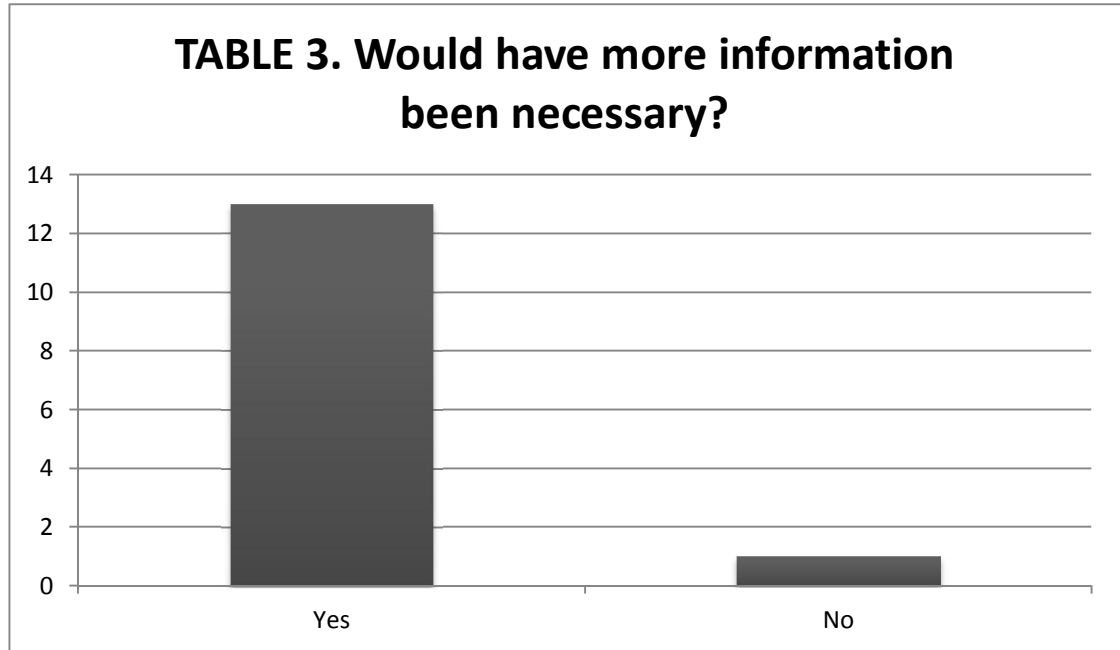


TABLE 3. Necessity of additional information



Due to the nature of the questionnaire, there was no option to specify exactly, what kind of information would have been appreciated instead, in order to fulfil the students' expectations and demands.

The last question offered the opportunity to add opinions and issues which, in the students' opinion, should be addressed but have not been covered in this survey. The answers generally revolved around three main issues, namely the relationship between students and staff, the mentors' English skills and Finnish language and, as a result, assessment criteria.

It has been criticised that students very often do not have much contact with staff members apart from their tutors which leads to isolation, especially when the tutor calls in sick or the student does not always have the same shifts.

Further, as can be expected, many students seemed to have problems with the Finnish language. Not only does it complicate communication matters with patients and staff, it also affected the documentation. One student suggested that English language should be used when storing and passing information such as in Effica, and when giving or receiving reports. Others animadverted that it is not fair to have a lower evaluation because certain criteria could not be fulfilled due to the language. If the language has to be considered at all in

the assessment, it ought to be done by individually considering the time the student has been in Finland already.

The last topic, which came up more than once was the English proficiency of the mentors. As it has been mentioned by one participating student; the learning effect is not as good as it could or should be if the mentor commands only manageable English rather than good (or even excellent) English.

The student's results showed clearly that there is room for improvement when it comes to international students' practical training. The mentoring itself was criticised, not only the language skills, but also the social interaction with the students. From our own experiences, we can tell that students very often only have contact to their mentor, even apart from the time spent on teaching. Other nurses seem to be rather shy when it comes to making contact with international students, although we believe that there is interest to get to know these. However, we also know that, depending on the student's origin, Finnish people may appear introvert and uncommunicative even though this is not the case. Factors like these have to be considered when evaluating the results.

While working on the survey and especially while creating the questionnaire, certain issues hindered the process, most importantly the software used for setting up questionnaires. Even though or maybe just because it is free, it has too many limitations: Survey results were only accessible for 10 days after launch. Further, only a limited amount of questions were allowed and additional functions such as a small note thanking for the participation were only for paying customers.

## **6. DISCUSSION**

The statistics presented in the introduction show that a lot of patients do require care on a ward specialised in trauma care. As ward 20 is frequently used for practical training by international students, it is crucial to provide proper orientation. Additionally to the one received from either mentor and / or

senior nurse, a written guide with some illustrative material aids finding one's way on this ward.

The purpose of the thesis – to create an orientation folder aiding international students – has been achieved. The amount of information given in the guide covers the necessary areas, while being neither too discursive nor too limited. It is directed at the afore mentioned target group, but also applies to Finnish students, given that they would want to obtain some information in English. Further, the content of the orientation folder is a lot different and much shorter than the Finnish version and therefore faster to read.

The most important results of the implemented survey showed that an orientation folder is absolutely necessary but not all of those the participants encountered have been useful. Apart from that, the introductions of the wards have been criticised, as more information concerning issues such as the location of fire extinguishers or the resuscitation trolley would have been appreciated. The tutoring itself was a subject of criticism as well, and should be investigated further.

## **6.1 RELIABILITY**

Even though the questionnaire was addressed specifically to international students; six of the answerers identified themselves as being Finns. At least, this has been concluded by the results where the same number of people marked Finnish as their mother tongue. Considering the small number of answers we actually received, it is not possible to say how well the foreign students perceived their practical trainings and the associated guiding. As language skills are an important factor, the introductions of the wards most probably differed for those being able to speak Finnish.

## **6.2 COOPERATION**

The senior nurse and the staff from the ward itself were very pleased with having someone doing an orientation folder, as none such thing existed in English, even though they regularly hosted practical trainings for international students. Cooperation between the authors and the ward proved to be easy and forthcoming. The authors were given the Finnish version of the ward's



orientation folder and additional information ranging from specific care instructions to flyers usually handed out to patients on discharge. Further, as mentioned in a previous chapter, they outlined the concept and their expectations quite clearly, making it easy to follow the instructions and create the folder.

The final version of the folder has been given to the ward already in April and has been in trial ever since. Since that was just before summer break, new students have arrived only recently to do their practical training and we hope to get sufficient feedback of them by the end of this year. However, the senior nurse and other nurses who have been tutoring international students have expressed their liking already. According to them, it has turned out as they wished, even though certain parts such as the documentation programme (Effica) may be covered in a more detailed manner in the next version. The folder will be renewed as soon as the students' feedback has been analyzed and regular updates will be taken care of in due time.

### **6.3 LIMITATIONS**

While being in the making and evaluating of the student's questionnaire results, the question arose whether there would be any benefits if the nurses from the traumatology ward were to be asked about their experiences with international students. After creating a different survey for them and the approval of two of the school's teachers and the senior nurse, it was sent out. The ward's nurses' participation was much appreciated and the authors were looking forward to the results. However, on retrieving the questionnaire's information on the last day of the survey it turned out that, probably due to some technical malfunction, none of the answers were accessible.

It was not possible to get the results back, and as at that time a lot of other questionnaires have been sent to the ward, it was decided not to launch it a second time. Even though it would have been interesting for the authors and probably for other students, as well, these special results were not absolutely vital for this project as the senior nurse contributed the ward's expectations already.

## 6.4 CONCLUSION

During the writing process, we realized how difficult it was to find a decent theoretical basis concerning our subject. It became clear that for being able to create a reliable scientific background and get recommendations for written orientation, there would be a need for wider research.

Possible future studies or researches could for example focus on a general guideline, provided by Central Finland's Central Hospital, regarding the content of orientation folders:

1. What has to be included in every folder? (Hygiene rules, e.g.)
2. What are the most relevant issues? (Nursing guidelines, e.g.)

Certain aspects will differ for sure, as every ward has its own specialization and needs to cover different issues in order to be useful and informative.

Additionally, it would be interesting to get a more detailed picture of what are the international students' expectations towards an orientation folder. What ought to be included for sure and which information would be nice to have at some point, but do not necessarily belong to the folders' content?

Further, the nurses, regardless of the ward, could be asked about their wishes concerning the practical trainings of foreign students. This does not concern only the ones usually tutoring foreigners since it may happen any day that another nurse has to instruct the student due to sudden illness, for example.

## REFERENCES

Adam, L. 2010. International nursing student, SNP8, Jyväskylä University of Applied Sciences. Practical training on ward 20 in November 2010.

Cole, E., Middlehurst, T. 2009. Trauma Care: Initial assessment and management in the emergency department. Hoboken: Wiley-Blackwell, 2-20, 147-176.

Digiulio, M., Jackson, D. 2008. Medical-surgical nursing demystified: A self-teaching guide. New York: McGraw-Hill, 477.

Doherty, G. 2005. Essentials of diagnosis and treatment in surgery. Blacklick: McGraw-Hill, iii-iv.

Freeman, B., Ikossi, D., Le, J. 2003. Ultimate guide to choosing a medical specialty. Blacklick: McGraw-Hill, 213-214.

Härmä, M., Ruokonen, E., Harvima, I., Takala, J. 1996. Palovammojen hoito. Lääketieteellinen Aikakauskirja Duodecim 1996. Accessed on 11 September 2011.

[Http://www.duodecimlehti.fi/web/guest/etusivu?p\\_p\\_id=dlehtihaku\\_view\\_article\\_WAR\\_dlehtihaku&p\\_p\\_action=1&p\\_p\\_state=maximized&p\\_p\\_mode=view&\\_dlehtihaku\\_view\\_article\\_WAR\\_dlehtihaku\\_\\_spage=%2Fportlet\\_action%2Fdlehtihakuartikkeli%2Fviewarticle%2Faction&\\_dlehtihaku\\_view\\_article\\_WAR\\_dlehtihaku\\_tunnus=duo60306&\\_dlehtihaku\\_view\\_article\\_WAR\\_dlehtihaku\\_p\\_fropage=uusinnumero](http://www.duodecimlehti.fi/web/guest/etusivu?p_p_id=dlehtihaku_view_article_WAR_dlehtihaku&p_p_action=1&p_p_state=maximized&p_p_mode=view&_dlehtihaku_view_article_WAR_dlehtihaku__spage=%2Fportlet_action%2Fdlehtihakuartikkeli%2Fviewarticle%2Faction&_dlehtihaku_view_article_WAR_dlehtihaku_tunnus=duo60306&_dlehtihaku_view_article_WAR_dlehtihaku_p_fropage=uusinnumero).

Hopkins, W. 2000. Quantitative Research Design. Accessed on 27 September 2011. [Http://www.sportsci.org/jour/0001/wghdesign.html](http://www.sportsci.org/jour/0001/wghdesign.html).

Neutens, J., Rubinson, L. 2002. Research Techniques for the Health Sciences. 3<sup>rd</sup> edition. San Francisco: Pearson Education, 102, 107.

Penttinen, A., Mäntynen, J. 2009. Työhön perehdyttäminen ja opastus. 2<sup>nd</sup> edition. Accessed on 10 September 2011.

[Http://www.tyoturva.fi/files/800/Tyohon\\_perehdyttaminen2009.pdf](http://www.tyoturva.fi/files/800/Tyohon_perehdyttaminen2009.pdf).

Statistics Finland. 2011. Injuries caused by falls the most common reason for fatal accidents of 22 February 2011. Accessed on 23 August 2011.

[Http://www.stat.fi/til/ksyyt/2009/01/ksyyt\\_2009\\_01\\_2011-02-22\\_tie\\_001\\_en.html](http://www.stat.fi/til/ksyyt/2009/01/ksyyt_2009_01_2011-02-22_tie_001_en.html).

Terveysten ja hyvinvoinnin laitos. 2011. Kaatumisesta tai putoamisesta aiheutuneet sairaalajaksot. Accessed on 15 September 2011.

[Http://pistetaturmille.thl.fi/fi\\_FI/web/pistetaturmille-fi/tilastot/tilastokatsaukset/kaatumisesta-tai-putoamisesta-aiheutuneet-sairaalahoitajaksot](http://pistetaturmille.thl.fi/fi_FI/web/pistetaturmille-fi/tilastot/tilastokatsaukset/kaatumisesta-tai-putoamisesta-aiheutuneet-sairaalahoitajaksot).

Tieliikenteessä kuolleet tienkäyttäjryhmän ja iän mukaan. 2010. Stastics compiled by Tilastokeskus, Liikenneturva, Poliisi, Liikenne- ja viestintäministeriö, Liikennevirasto in 2010. Accessed on 19 July 2011.

[Http://www.liikenneturva.fi/www/fi/tilastot/liitetiedostot/Onn\\_M\\_2010.xls](http://www.liikenneturva.fi/www/fi/tilastot/liitetiedostot/Onn_M_2010.xls).

Timonen, M. Senior nurse of ward 20, Central Finland Central Hospital. 14 April 2011.

Treacy, P., Hyde, A. 1999. Nursing Research Design & Practice. Dublin: University College Dublin Press, 66.

World Health Organization. 2010. Obesity. Facts and figures. Accessed on 24 September 2011. [Http://www.euro.who.int/en/what-we-do/health-topics/noncommunicable-diseases/obesity/facts-and-figures](http://www.euro.who.int/en/what-we-do/health-topics/noncommunicable-diseases/obesity/facts-and-figures).

## **APPENDIX**

Appendix 1. Traumatology – Orientation for international students



# TRAUMATOLOGY

## Orientation for International Students

Linda Adam

Terhi Kuisma

April 2011

Degree Programme in Nursing  
Health Care and Social Studies



## CONTENT

1. TRAUMA CARE.....	2
1.1 Blunt trauma .....	2
1.2 Penetration trauma .....	3
1.3 Blast trauma.....	4
1.4 Thermal trauma.....	4
2. INTRODUCTION OF THE WARD.....	4
3. OVERVIEW OVER THE MOST COMMON INJURIES.....	6
Hip fracture.....	6
Ankle fracture .....	7
Wrist fracture.....	7
4. DAILY ROUTINES .....	8
Shifts .....	8
Daily programme .....	8
5. CARE CYCLE.....	8
5.1 Submission of patient.....	8
5.2 Documentation.....	9
5.3 Operative Care .....	10
5.4 Discharging a patient .....	11
6. USEFUL PHRASES.....	13
7. REFERENCES .....	14

## FIGURES

Figure 1 Basic fracture types.....	6
Figure 2 Illustration of Weber classification of ankle fractures.....	7
Figure 3 External Fixation.....	7
Figure 4 Submission of a patient (Finnish) (Osasto 20, 2011) .....	9
Figure 5 Submission of a patient (English) (Osasto 20, 2011) .....	10
Figure 6 Discharge of a patient (Finnish) (Osasto 20, 2011).....	11
Figure 7 Discharge of a patient (English) (Osasto 20, 2011) .....	12

## **1. TRAUMA CARE**

Trauma care deals with surgical patients who have sustained certain injuries making it necessary for them to be cared for on a special ward. The type of injury depends on the mechanism via which they have been sustained. Middlehurst (2009) defines these as following: Blunt, Penetration, Blast and Thermal.

However, all of these have common factors which affect the outcome. The most important to mention are the amount of energy transmission, also known as velocity or impact energy, surface area and tissue elasticity.

### **1.1 Blunt trauma**

The term blunt trauma describes the process of energy transfer, resulting in tissue compression. Common situations in which these kinds of injuries may be sustained are road traffic accidents, pedestrian impacts, cycle and motorcycle accidents as well as assaults and falls.

Middlehurst separates road traffic accidents into two categories, according to the mechanism of injury: The first one is specified as “occupant collision” and includes the injuries sustained when the occupant collides with the inside of the vehicle (or the outside, in case of ejection). The second one, called “organ collision”, happens at the point of impact between the occupant’s organs and the body’s framework, namely the skeleton. In severe cases both mechanisms of injuries are possible.

Pedestrian impact is divided by Middlehurst into three different phases, all of them together making up the injury pattern consisting mostly of thoracic, head and lower extremity damage. In specific the phases are:

1. vehicle-bumper impact
2. vehicle-bonnet and / or windscreen impact and
3. ground impact.

The severity and location of injuries differ, depending on the height of the victim as well as the model and speed of the vehicle.

When it comes to cycle accidents, both cyclists as well as motorcyclists are exposed to compression and shear forces due to the lack of protective material and or / space surrounding them as it does in cars i.e. Protective clothing does diminish the severity of injuries to some degree such as leathers being at least partly preventive from asphalt burns or tight trousers reducing blood loss in the lower-extremities or, most important, the helmet protecting the head.

Both risk groups have common mechanisms of injury but still differ from one another in severity as there is much more speed involved in motorcycle accidents. Should the bike / motorcycle collide frontally and come a sudden halt, the rider most likely will sustain head, chest and / or abdomen injuries as his / her forward motion will continue until something stops him / her. Cyclists are more likely to suffer from femoral injuries due to collision with the bike's handlebars, additionally to the already mentioned pattern.

According to Middlehurst, assault victims often present themselves with a variety of injuries, always depending on the force applied and the instruments used. Light blows to the head may cause haematoma or open wounds. In case of major blows, one may expect fractures of the skull bone, cerebral contusions and / or extra- or subdural haemorrhage. Additionally, defensive injuries, usually on the upper limbs and hands may occur. Head and facial injuries as well as damage to the torso are possible; the latter ones happen when the victim went down and got kicked or stepped on.

Falls are most common in children and older people. The sustained injuries and their severity are affected by several factors. Middlehurst identifies these as following:

1. the height of the fall (which will influence the speed of impact)
2. the contact surface and
3. the position on impact.

Naturally, the velocity increases with the height and therefore affects the outcome. Middlehurst mentions that falls from heights three times one's own do result in serious injuries. Factors such as hard ground make a difference, as concrete, for example, and result in compression injuries. Additionally, the impact position influences the location and severity of injuries. Landing on one's feet will most probably affect the feet, femoral necks and the spine. Landing flat might lessen the extent of the wounds as the energy is transferred to a wider area.

## **1.2 Penetration trauma**

Opposed to blunt trauma, debris e.g. parts of clothing, can be tracked into the wound which poses an infection risk if not recognized. Organs which in themselves are not elastic or own a rather rigid shell are more likely to sustain worse injuries than ones which can buffer the impact somewhat.



Stab wounds, mostly by knives, are always caused with low energy and fabricate a wound which usually is rather straight but also has an unknown depth. This makes evaluating the severity of the wound difficult as it is not possible to estimate the damage. However, Middlehurst describes that men and women tend to use knives differently; men rather stab upwards whereas women are more likely to stab downwards. This knowledge somewhat allows to picture the damage done to the body parts not visible, given that the attacker is known.

Impalements are rather uncommon and mostly accidental, as well, but can include basically any body part.

### **1.3 Blast trauma**

Blast injuries or explosions may cause multiple traumas and be life-threatening at that. Middlehurst divides the injuries according to the sequence of sustainment. Primary blast injuries are caused directly by the shock wave and usually damage organ such as lungs, gut and eardrums. Oedema, bruising and rupture as well as the possibility of pneumothorax and / or air embolism is given with lung injuries. Secondary blast injuries are sustained by flying objects, caused by the explosion. These wounds can be all of the afore mentioned types of trauma. Tertiary blast injuries are caused by the impact to wall or ground after being lifted by the shock wave. As well as with the above explained section, the sustained injuries can be a combination of all trauma types.

### **1.4 Thermal trauma**

Burns present themselves with a variety of causes, most often it is due to heat, and according to these with different outcomes and injuries. Cole (2009) classifies burns as following:

Scalds (caused by hot liquids or steam), open flame and contact with hot surfaces. Additionally, chemical agents and contact with electricity may cause burns or at least a heat response.

## **2. INTRODUCTION OF THE WARD**

Traumatology is a surgical ward and takes care of patients over the age of 16. The most common patient types are traumas before and after surgery, burns and frostbites, orthopaedic and orthopaedic infections patients and, if necessary, patients from other medical areas such as people with lung diseases and haemopneumothorax with tubes already set in place as well as

substance abusers who are usually there only for one night. Altogether the ward has a capacity of 34 beds. (Keski-Suomen Sairaanhoidopiiri / KSSHP, 2011)

Usually injuries caused by trauma need surgical treatment. However, surgery is not always necessary and injuries might be treated with casts or splints and physiotherapy. Then the treatment is always planned individually for each case. In 2010, the average length of treatment on the ward was three days. Treatment goal is to help patients and their family to adapt to the changes that the injury has caused. Supporting and encouraging the patient to get along as independently as possible in daily life is very important. (Tapaturmaosasto, 2009)

The staff consists of the senior physician, ward physician, 5 specialized doctors and those who are still in their specializing studies, the head nurse, assistant head nurse, 18 registered nurses, 5 practical nurses, 1 osteoporosis nurse, 2 secretaries, 6,5 hospital assistants, 2 physiotherapists and one fitness nurse. Additionally, the ward can use the social workers of the hospital. (Tapaturmaosasto, 2009)

There are three different teams on the ward. Usually they are divided in that way, that one team takes care of elderly patients, one has wound care patients and one is doing crisis care.

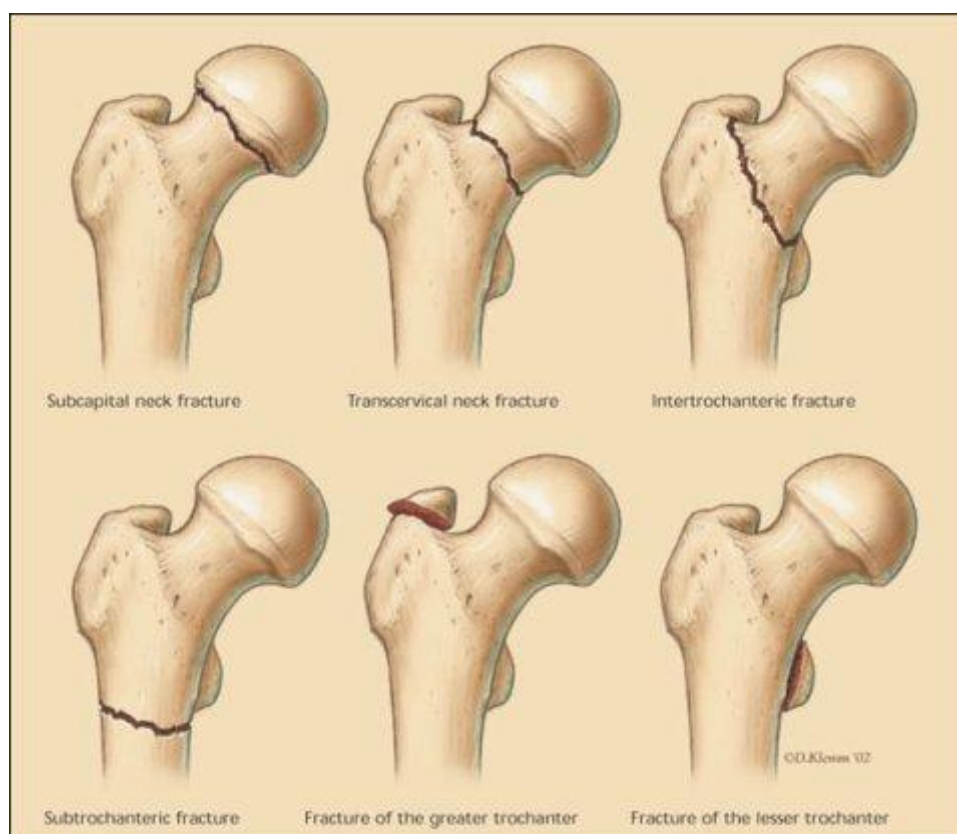
- Team I, rooms 2-4, 15
- Team II, rooms 6, 7, 9
- Team III, rooms 10, 13, 14
- Rooms 11, 12 and TH (tarkkailu = observation room) can be used by every team (Tapaturmaosasto, 2009)

### 3. OVERVIEW OVER THE MOST COMMON INJURIES

As the following three are the most common injuries you will find on Traumatology, we will give some really short information about each. However, these are certainly not the only ones and the injuries are not limited to fractures either, as it has been explained above already.

#### Hip fracture

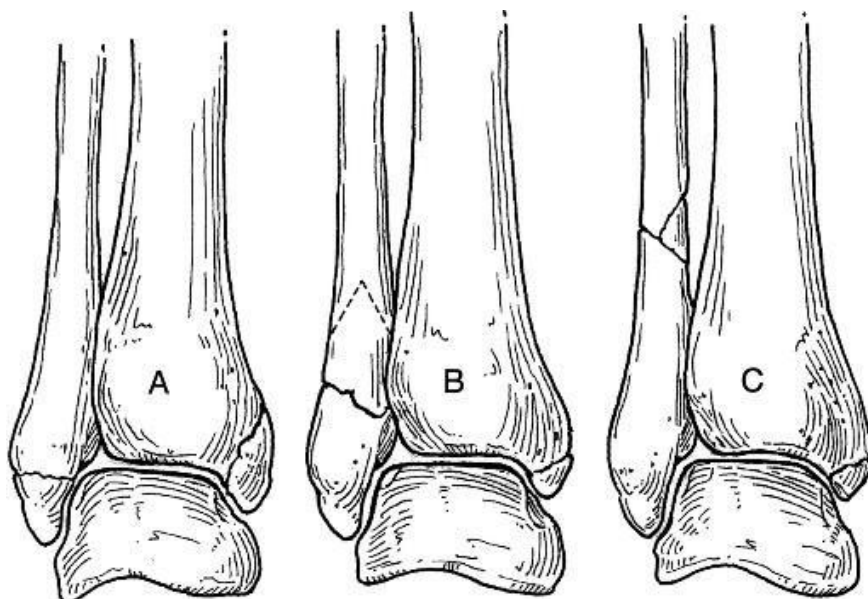
This fracture, together with injuries to the femur, can be found most often and is usually caused by tumbling. Average age of the patients is approximately 83 years. Women are affected more often than men due to weaker bone structure caused by osteoporosis.



**Figure 1** Basic fracture types. Various combinations of these fracture types can occur. (American Academy of Family Physicians, 2003)

Commonly, these kinds of fractures will be treated surgically. However, the decision of treatment depends on the type of fracture, the patient's age, general condition and basic diseases. (KSSHP, 2011)

## Ankle fracture



**Figure 2** Illustration of Weber classification of ankle fractures, types A - C (RadioGraphics, 2000)

Ankle fractures are mostly treated surgically, as well. Thin slabs and certain kinds of screws, depending on the fracture, will be attached to the damaged area. One or two days after operation a cast will be applied which then will stay for six weeks. To help the patient moving, they usually will get crutches from the physiotherapy. Most of the time, the patients can be discharged during the third day already. (KSSHP, 2010)

## Wrist fracture



**Figure 3** External Fixation

Damage to the wrists usually happens because of tumbling and trying to absorb the fall by stretching out the hand. Here, as well, different types of fractures are possible and these determine the following care. Often, bones have to be repositioned and fixated, either by using a cast or an external fixation. (KSSHP, 2010)

## 4. DAILY ROUTINES

### Shifts

Morning	07:00 – 15:00
Evening	13:00 – 21:00
Night	20:30 – 07:15

### Daily programme

07:00	Breakfast, taking blood samples
07:30	Morning activities, operations, care interventions
08:00	Doctor's circuit
11:00	Lunch
12:00	Visitor's time starts
12:00	Discharges, transfers from / to Health Centres
13:00	Coffee time
16:45	Dinner
19:00	Supper
20:00	Visitor's time ends (KSSHP, 2010)

## 5. CARE CYCLE

### 5.1 Submission of patient

Usually the ward will be notified via phone about the arrival of a new patient. Information given during the notification includes name, social security number, age and diagnosis. Most of the time you don't need to prepare a bed since they are readied by the cleaning personnel. However, there are exceptions. Patients with untreated fractures might need certain positioning aids such as wedge-shaped bolsters or they require extension treatment. Ask your mentor about possible specific preparations concerning the bed.

When the patient comes to the ward, you'll want to ask his / her ID again. Further, it is always good to let the patient tell you what happened, even though it is in the report of the attending physician. Ask if he / she is in pain and administrate the medication according to the doctors orders.

From experience, patients being transferred from the A&E Department spent a couple of hours in the Emergency Room and most of them are either thirsty or need to use the toilet. Relieve their needs but be careful with liquids or nutrition, the patient might be going to the Operation Theatre quite soon. Check the doctor's orders!

When the patient is safe and sound in his / her assigned room, make yourself familiar with his / her medical history, the treatment already given and the examinations planned, e.g. diagnostic imaging. Start the documentation. (Adam, 2010)

## 5.2 Documentation

Every office in the ward has those small reminders of what to do for submissions or discharges of patients. For a better understanding and to promote the language skills, both the Finnish and the English version are presented.

### Tulotilanne

- Sisäänkirjaus
- Whoike
- LääkeL
  - tarkista, tallenna + kuittaa tarkastetuksi
- LääkeO
  - kopioi osastolääkityksesi
  - tulosta lääkekortti
  - kuittaa tarkastetuksi
- Kuumekurva
- (Leija)

Figure 4 Submission of a patient (Finnish) (Osasto 20, 2011)

### Submission

- Login
- Whoike (Documentation System)
- LääkeL (patient's own medication list)
  - check, save and press "kuittaa tarkastetuksi"
- LääkeO (patient's medication on the ward)
  - press "kopioi osastolääkityteksi"
  - print medication card
  - press "kuittaa tarkastetuksi"
- Kuumekurva (Chart for patient's vital signs)
- (Leija) (operation folder)

Figure 5 Submission of a patient (English) (Osasto 20, 2011)

## 5.3 Operative Care

### Preoperative Care

Most of the patients with untreated fractures, who are waiting for their operation, are in pain. Some might not admit that a so proper observation is necessary. Change the position of the affected limb or area, offer cool packs and administer pain medication according to the doctor's instructions.

However, be careful with position changes as you don't want to deteriorate the fracture. Especially with open fractures, you have to keep the area as clean as possible. If the wound needs to be checked or the dressing changed; work aseptically. (Adam, 2010)

### Postoperative Care

As soon as the patient returns from the Operation Theatre, check the vital signs and ask whether they are in pain. If yes, go through the steps explained in the preoperative care. Check the doctor's orders for any changes in medication. A wound which has been treated in the Operation Theatre is considered to be sterile for 24 hours. During this time, do not manipulate the dressing if not absolutely necessary. Of course, if the wound secretes a lot, dressing changes will be inevitable.

However, aseptic way if working is an absolute must. This means that you start planning the order of patients for whom you have to provide wound care. Start with the cleanest (e.g. surgical wounds) and finish with those being infected. Do not change that order, otherwise you risk infecting clean wounds. (Adam, 2010)

#### Follow-Up Care

The follow-up care takes place in the patient's own health care centre, where the stitches or staples are removed. Most of the time, the patient will have an additional appointment in the surgical polyclinic about two weeks after discharge for checking the success of the surgery. Depending on the diagnosis and treatment given, the patient might require physiotherapy. This will be started on the ward very soon after the surgery but ought to continue after discharge, as well. (Adam, 2010)

### 5.4 Discharging a patient

The table below is the second part of the reminder in the nurses' offices. As with the submission, both the Finnish and the English version are displayed.

#### Lähtötilanne

- Määräykset Valmis-tilaan
- Whoiken sulkeminen
- Kuumekurvan päättäminen
  - Ei, jos siirtyy oper. toimialueen vuodeosastolle (KIR, KOR, GYN) tai VOH:iin
- Osastolääkityksen lopettaminen
  - Ei, jos siirtyy sairaalan muuhun yksikköön
- Uloskirjaus

Figure 6 Discharge of a patient (Finnish) (Osasto 20, 2011)



### Discharge

- Finish doctor's orders
- Close Whoike
- End Kuumekurva
  - DON'T, if the patient is transferred to another operative ward (KIR, KOR, GYN) or to VOH
- End LääkeO
  - DON'T, if the patient is transferred to another unit
- Logoff

**Figure 7** Discharge of a patient (English) (Osasto 20, 2011)

When patients are discharged during the week or late in the evening, they might not be able to acquire the prescribed medication in time. In this case, the ward will provide medication as long as necessary; e.g. until Monday morning. Before patients are allowed to go home, they will need some education. For example, some might have to be given advice about their nutrition or be instructed on how to mobilize the affected limb. Depending on the diagnosis and treatment, this can be done by handing them certain care instructions which are provided by the ward or by telling them what is important. These information sheets, which are given most of the time, may contain instructions for a stitched / stapled wound and how to recognize infections. However, the best way is to hand out some written information and additionally explaining these.

Assess the patient's current status. Is he / she able to cope alone at home? Will he or she need professional help because of e.g. antibiotic treatment? Make the necessary arrangements. This could include organizing a place in home nursing or just calling a taxi in order to get him / her home safely since he / she is neither able to walk nor to drive a car. (Adam, 2010)

## 6. USEFUL PHRASES

Below are some phrases which are very useful and important when caring for patients. Of course, there is only a limited variety but most of them you will need every day. Ask your mentor about the pronunciation if you are not sure.

- patient – *potilas*
- nurse – *hoitaja*
- doctor – *lääkäri*
- bed – *sänky*
- food – *ruoka*
- pain – *kipu*
- medication – *lääke*
- pain medication – *kipulääke / särkylääke*
- toilet – *vessa / WC*
- shower – *suihku*
- towel – *pyyhe*
- moving – *liikkua*
- clothes – *vaatteet*
- Can you wait, I will get another nurse. – *Pieni hetki, haen toisen hoitajan.*

(Kuisma, 2011)

## 7. REFERENCES

Adam, L. 2010. International nursing student, SNP8, Jyväskylä University of Applied Sciences. Practical training on ward 20 in November 2010.

American Academy of Family Physicians. 2003. Hip Fractures in Adults. Accessed on 16 April 2011.  
[Http://www.aafp.org/afp/2003/0201/afp20030201p537-f3.jpg](http://www.aafp.org/afp/2003/0201/afp20030201p537-f3.jpg).

Cole, E., Middlehurst, T. 2009. Trauma Care: Initial assessment and management in the emergency department. Hoboken: Wiley-Blackwell, 2-20, 147-176.

Keski-Suomen Sairaanhoidopiiri. 2010. Nilkkamurtumanhoito. Accessed on 16 April 2011.  
[Http://www.ksshp.fi/Public/default.aspx?contentid=2955&nodeid=24742](http://www.ksshp.fi/Public/default.aspx?contentid=2955&nodeid=24742).

Keski-Suomen Sairaanhoidopiiri. 2010. Osaston Päiväohjelma. Accessed on 16 April 2011..  
[Http://www.ksshp.fi/Public/default.aspx?contentid=2362&nodeid=24742](http://www.ksshp.fi/Public/default.aspx?contentid=2362&nodeid=24742).

Keski-Suomen Sairaanhoidopiiri. 2010. Rannemurtuman hoito. Accessed on 16 April 2011.  
[Http://www.ksshp.fi/Public/default.aspx?contentid=2956&nodeid=24742](http://www.ksshp.fi/Public/default.aspx?contentid=2956&nodeid=24742).

Keski-Suomen Sairaanhoidopiiri. 2011. Lonkkamurtumapotilas. Accessed on 16 April 2011  
[Http://www.ksshp.fi/Public/default.aspx?contentid=2954&nodeid=24742](http://www.ksshp.fi/Public/default.aspx?contentid=2954&nodeid=24742).

Keski-Suomen Sairaanhoidopiiri. 2011. Tapaturmakirurgia. Accessed on 16 April 2011. [Http://www.ksshp.fi/Public/default.aspx?nodeid=24742&culture=fi-FI&contentlan=1](http://www.ksshp.fi/Public/default.aspx?nodeid=24742&culture=fi-FI&contentlan=1).

Kuisma, T. 2011. International nursing student, SNP8, Jyväskylä University of Applied Sciences. Translation work during writing process

RadioGraphics. 2000. Radiologic History Exhibit. Accessed on 16 April 2011. [Http://radiographics.rsna.org/content/20/3/819/F36.medium.gif](http://radiographics.rsna.org/content/20/3/819/F36.medium.gif).

Tapaturmakirurgia. 2010. External fixation. Accessed on 16 April 2011.  
[Http://www.ksshp.fi/Public/download.aspx?ID=3519&GUID={7956cfc6-3037-461f-9849-e6d5266ec45a}](http://www.ksshp.fi/Public/download.aspx?ID=3519&GUID={7956cfc6-3037-461f-9849-e6d5266ec45a}).

Tapaturmaosasto. 2009. Perehdytyskansio Osasto 20, Jyväskylä.