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Sterile Table Preparation

An Educational Video for Nursing Students

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Laurea University of Applied Sciences

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The purpose of the thesis was to produce an educational video about sterile table preparation for English-speaking nursing students from a Finnish perspective. The challenge faced by international nursing students studying in English due to a lack of suitable educational materials on sterile table preparation from a Finnish perspective highlighted the need for this thesis. The thesis aims to contribute to a safer healthcare environment by empowering nursing students with knowledge and skills to prevent patient infections during medical procedures.

The educational video was produced using the functional thesis method. The feedback was received from six nursing degree student participants using a Google survey form with five questionnaires. The maximum number of respondents agreed with the usefulness of the video, improving their knowledge and hands-on skills by watching this educational video. The video demonstrates standard aseptic techniques for preparing a sterile table based on the current evidence-based Finnish recommendations and guidelines. Therefore, the authors were pleased with the educational video's outcome and recommended it as a valuable guidance resource in nursing curricula. The video is especially useful for nursing degree students studying in Finland in English.

Keywords: sterile table, sterile environment, aseptic, nursing students, educational video

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1 Introduction

Aseptic practices are crucial in healthcare, primarily to prevent patient infections during medical procedures (Deoine & Sandra 2009). A recent study by the European Union (2018) reveals that approximately 90000 patients die due to healthcare-associated infections annually. In Finland, the number of patients affected by these infections is estimated to be around 100000, with a mortality rate of 1500-5000 (Terveyden ja Hyvinvoinnin Laitos 2020). Therefore, sterile table preparation is a fundamental skill for healthcare providers, particularly nurses, in maintaining a sterile environment and safeguarding patients' well-being (Link 2019).

Nursing students, invested in acquiring complex skills, play a key role in their training as future caregivers since the sterile table is the foundation of their education (Andrews & Boyle 2016). The systematic and careful arrangement of instruments and supplies on the sterile field is essential for preventing contamination and ensuring the highest standards of patient care (Brennan 2021). Nursing students are provided with this specialized knowledge, which is essential for their academic progress and, more importantly, for the well-being and safety of the patients (WHO 2022) they serve. However, the complexities involved in this process are challenges for nursing students.

While preparing for the core competencies national exam (Laurea 2023a) on the sterile table preparation, authors discovered limited English-language videos portraying the Finnish perspective despite numerous available books and YouTube resources. Although the fundamental principles of sterile table preparation are consistent across different countries (CDC 2018), specific guidelines and practices may vary according to national health rules and regulations. The thesis proposes producing a dedicated evidence-based video to eliminate this educational gap. The video will be customized for nursing students in Finland and presented in English.

As healthcare standards evolve continuously, equipping nursing students with the necessary skills and knowledge is a foundation of educational efforts. The purpose of the thesis is to produce an evidence-based educational video for nursing students covering the principles of sterile table preparation from a Finnish perspective in English. Creating evidence-based educational videos for nursing students intends to make informative guidance and practical skills accessible. The thesis reviews the basic principles of sterile table preparation, highlights their importance, and explores the potential consequences of deviating from basic standards. A lack of theoretical knowledge, hand skills, and negligence related to patient safety and sterile or aseptic methods can increase the risk to a patient's health (Davis 2023). Therefore, this video empowers nursing students to smoothly acquire and apply sterile table preparation techniques while giving clinical service to patients.

2 Theoretical Background

The theoretical background includes the fundamental concepts in preparing a sterile field for procedures demanding a contamination-free environment. The primary ideas explored in this thesis include asepsis, sterility, sterile field, aseptic procedures, hand sanitation, the importance of asepsis in nursing, and its role in patient safety. Evidence-based explanations have been provided in the theoretical background, highlighting the significance of each of these terms from a nursing perspective.

2.1 Asepsis

Asepsis is a condition where microorganisms that can cause disease are absent (Berman, Snyder & Frandsen 2021, 694) and plays an essential role in clinical settings. The two asepsis approaches used in hospital settings are medical and surgical asepsis (Eske, 2022).

Medical asepsis is limiting a specific microorganism to a limited area. Therefore, the goal of medical asepsis is to limit the number and transmission of microorganisms (Berman et al. 2021, 690). Surgical asepsis is practiced in a hospital environment to keep an area or instruments free from microorganisms. It is primarily followed in the operating, labour, or delivery rooms (RNpedia 2023). It includes destroying all the pathogens, microorganisms, and spores, which cannot be done in medical asepsis (Berman et al. 2021, 685).

A deep understanding of medical and surgical asepsis and its principal methods is essential for nurses or students who want to pursue a career in nursing. Nurses' knowledge of its importance also ensures patient safety and reduces the risk of contamination within clinical settings.

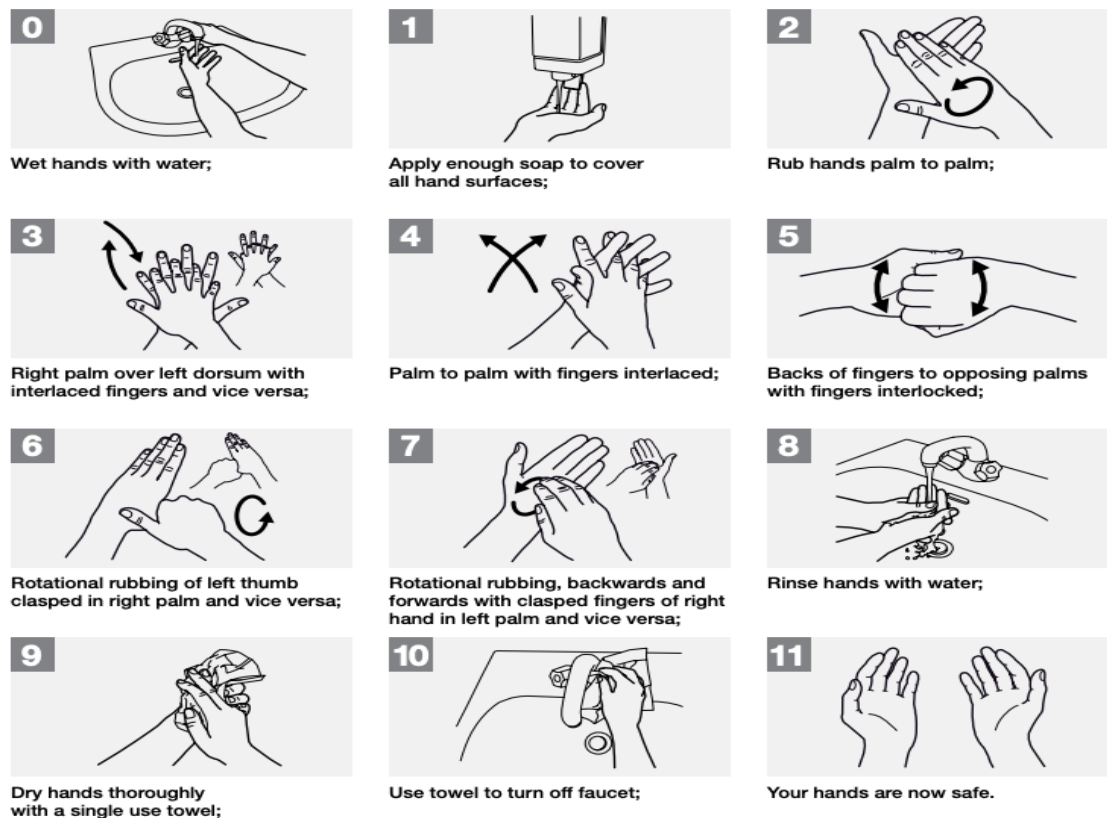
2.1.1 Asepsis Technique

The asepsis technique, also known as the aseptic technique, involves a specific set of medical practices to achieve the goal and principles of asepsis. Therefore, the asepsis technique performs all the activities that prevent the risks from pathogens. Pathogens are bacteria, viruses, fungi, and all other microorganisms, most of which can cause disease. Healthcare professionals use aseptic techniques in surgical wards, medical wards, clinics, and outpatient care (Eske 2022). The main objective of the asepsis technique is to keep patients safe from possible infections caused by harmful pathogens and control their transmission (Stephens 2018). Three types of aseptic techniques are used in various situations while performing different tasks in patient care (Brennan 2021). They are sterile technique, surgical aseptic technique, and standard aseptic technique.

The sterile technique is the strictest form of aseptic technique, eliminating over 99% of germs or microorganisms (Eilbacher & Nardin 2020, 381). The resources used in this technique are sterilized gloves, instruments, operating room, masks, tables, etc. This technique is primarily used in surgery and invasive procedures, where there is a significant possibility of infection and, if not sterilized correctly, can bring a life-threatening situation (Link 2019). The significance of the surgical aseptic technique extends beyond the operating room, also requiring strict aseptic procedures while using sterile instruments and supplies, excluding the sterile operating suite (Hinkle et al. 2022). The surgical aseptic technique is used in complicated medical procedures that require a longer time involving multiple body parts of patients (Rosenberg & Aaltonen 2013). The standard aseptic technique is commonly used in healthcare settings for patient care, such as wound dressing, insertion of intravenous lines, or catheterization (CDC 2018). Therefore, this technique does not require as strict sterility as surgical aseptic techniques. However, it still focuses on cleanliness and minimizing the risk of infection. By incorporating principles and techniques of aseptic into education and practice (Hawker et al. 2023), nursing students and professionals ensure the safety and well-being of the patients during clinical settings.

2.1.2 Hand Hygiene and Handwashing

Hand hygiene and hand washing are essential in sterile table preparation in nursing. Hand hygiene usually involves cleaning one's hand to remove bacteria, contaminating substances, dirt, and microorganisms. In contrast, hand washing usually means cleaning the hand with soap and running water to remove visible dirt. Nurses must follow hand hygiene and the hand disinfection process properly before starting the process of sterile table preparation. The WHO (2009) guidelines suggest using soap and clean water to wash hands for at least 20 seconds, drying with clean paper or towel, and disinfection with an alcohol-based sanitizer. It is essential to dry the hand with a single-use paper or towel before rubbing the hand sanitizer because the effectiveness of the alcohol-based sanitizer is diluted in wet hands (Anttila et al. 2018, 128). Hand hygiene is a fundamental essential nursing practice that helps protect the patient's safety and health care workers from infection (Mercer University 2021). The process helps to remove bacteria, contamination, and dirt from their hands, which ensures that the sterile table remains sterile and free of infections or bacteria. The World Health Organization publishes a brochure to show the correct way to wash hands, as shown in Picture 1.



Picture 1: How to wash hands? (WHO 2009, 156)

2.1.3 Hand Disinfectant

Hand disinfectant is a product or substance that helps kill or remove pathogens and microorganisms from the hand. It can be in different forms, like gels, foams, and liquids. They contain some alcohol and antimicrobial agents (WHO 2009). Hand disinfectant is essential while maintaining a sterile environment in healthcare facilities. Nurses usually use hand disinfectant products before and after preparing the sterile table. Hand disinfectant helps to reduce the number of pathogens on the hands and significantly reduces the chance of transmission of infection and contamination (Smith et al. 2016, Chap. 14). However, the nurse must follow the correct hand disinfection method. The improper methods and less hand sanitization liquid are insufficient to remove the bacteria in the hands and fingers (Anttila et al. 2018, 128). However, the hand sanitization process has been evolving since it was introduced in healthcare services. Table 1 shows the different phases of the hand sanitization process based on the amount of alcohol rinse, duration, and massage techniques.

	Amount of Alcohol Rinse	Duration of the massage	Techniques
CDC 2002	According to the manufacturer's instructions	Until hands are dry	The rinse is applied everywhere on the hands and fingers
WHO 2009	Handful	20-30 seconds	Six-point technique
ICPIC 2017	Depending on the size of the hands (2-4 ml)	15 seconds	Three-point technique (pay special attention to the fingertips)

Table 1: Three phases of the hand massage disinfection process (Tschudin-Sutter et al. 2017)

Therefore, proper disinfection usage helps patient safety, especially in patients with weak immune systems. Picture 2 represents the appropriate way to apply hand disinfectant, as published by the World Health Organization.

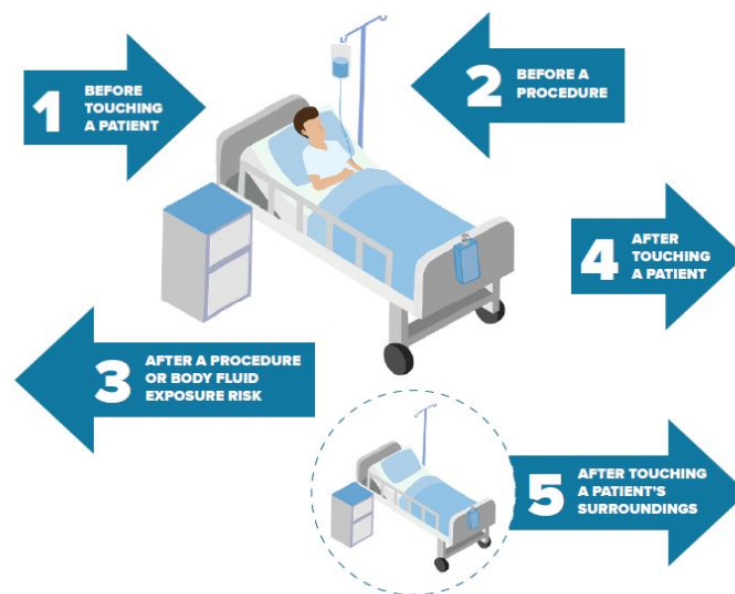


Picture 2: How to apply hand disinfection? (WHO 2009, 155)

2.1.4 Patient Safety

Patient safety refers to the actions of preventing patients from getting harmed in the process of giving medical care. Unexpected actions such as accidents, mistakes, sicknesses, or any hazard during medical assistance in the hospital setting (Arefian et al. 2016) must be handled cautiously. Patients are only safe when nurses follow patient safety rules seriously, such as preventing infections, giving medicine correctly, and finding the correct diagnosis at the right time (Sarvikivi 2008). Patient safety aims to minimize any risk of injuries and provide the best possible patient care.

According to the Nosocomial Infection Control (SENIC) report, which was conducted in different hospital settings, 8833 device-related infections, 3759 catheter-associated infections, 681 vascular catheter-associated infections, and 2393 ventilator-associated pneumonia were identified (Deoine & Sandra 2009). The data shows that any invasive procedure, from critical neural surgery to simple insertion of IV lines, is lethal and threatening if protocols of aseptic and sterile techniques are not followed (Rosenberg & Aaltonen 2013). The crucial actions of sterile techniques and aseptic methods reduce the risk of contamination and subsequent infections (CDC 2018). The WHO guidelines poster (Anttila et al. 2018) on infection prevention and control, as shown in picture 3, displays five significant actions before and after touching patients and their surroundings during patient care in clinical settings. It includes the patient's bed, utensils, or belongings of patients around them. Nurses and aspiring nurses need to follow these guidelines for the best possible patient care.



Picture 3: Five moments of Hand Hygiene for Patient Safety. (Anttila et al. 2018, 124)

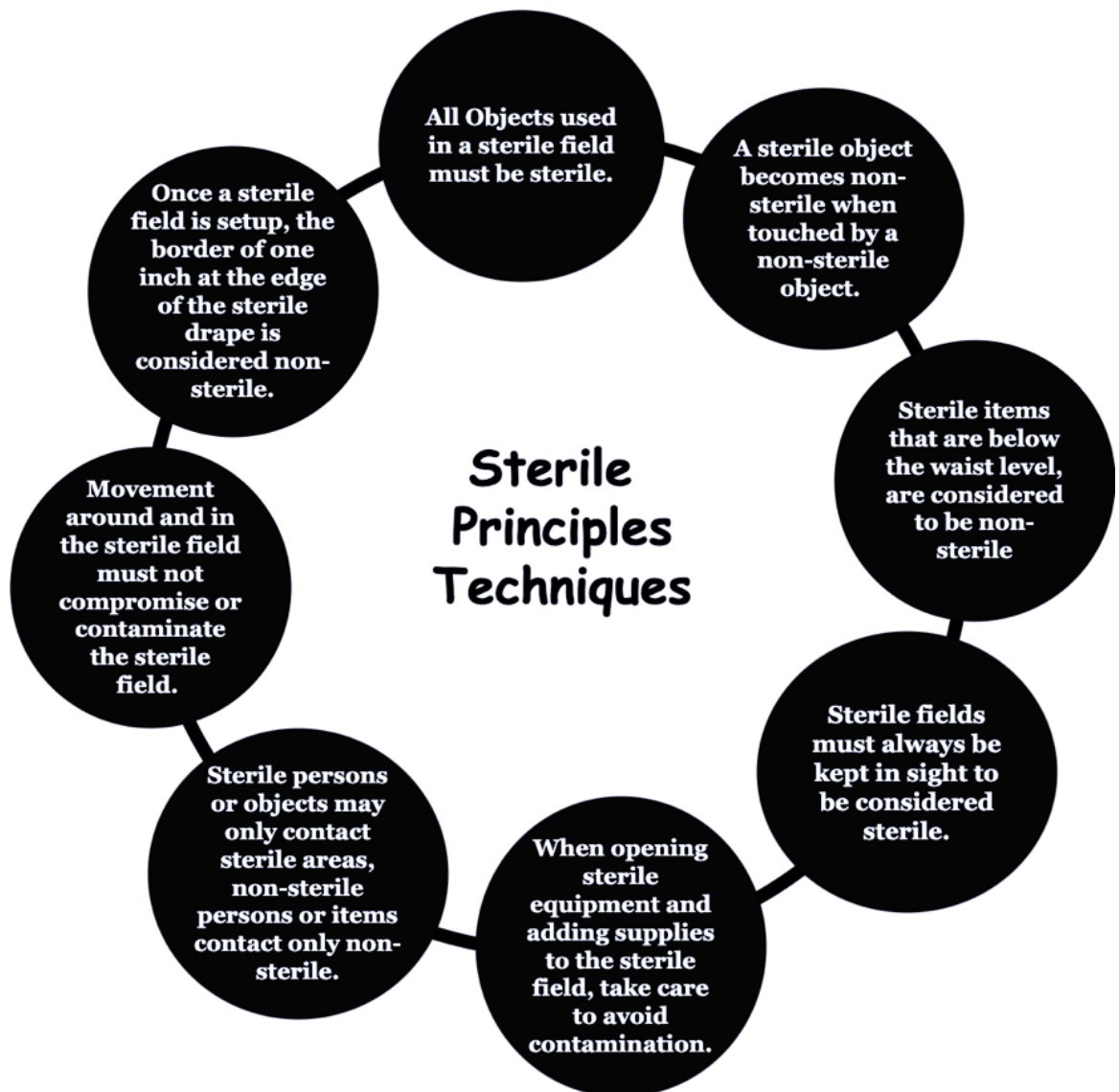
2.2 Sterile Environment for Infection Control in Healthcare

"Sterile" refers to a state where there are no living microorganisms such as bacteria, viruses, and fungi, as well as any particles or contaminants that could cause infection or disease (Forrey et al. 2023, 209). A sterile environment is crucial in various medical services, such as wards, operating rooms, or outpatient services, to control the spreading of infections and maintain the virtue of clinical procedures.

The space in clinical settings cleaned thoroughly and made free from microorganisms or contaminants is called a sterile field (Pitkänen 2022). The sterile field is typically prepared for different patient care procedures, such as operating rooms, surgery, or simple services like wound care. The sterile field accommodates sterilized instruments, ensuring the space is as free from contamination as possible (Siegel et al. 2007). These actions are essential to prevent surgical site infections, reduce the risk of complications, and maintain aseptic conditions for medical procedures (Kennedy 2013). Therefore, nurses play a crucial role in maintaining a sterile environment in healthcare settings. Similarly, nursing students must understand its importance and become more responsible while handling such patient care during clinical placements (Barratt 2018).

2.2.1 Sterile Techniques

The sterile technique is a patient safety principle and practice that minimizes the risk of contamination (CDC 2018) during patient care. Doyle & McCutcheon (2015) list the principles of sterile techniques to maintain sterility, reproduced in Picture 4 and followed to maintain sterility. Establishing and maintaining a sterile environment throughout the medical procedures is a vital skill in nursing. Understanding the principles of sterile techniques is crucial for aspiring nurses entering the healthcare profession. The nurses lacking this skill are too dangerous for patient safety. Therefore, health professionals strictly follow sterility principles when dealing with surgical incisions (Kennedy 2013).



Picture 4: General Sterile Techniques (Doyle & McCutcheon 2015)

2.2.2 Sterile Table Preparation and its Basic Components

The preparation of sterile tables is necessary for infection prevention and control (IPC) within healthcare facilities. The process includes establishing a controlled space where sterile tools, materials, and medications can be managed securely, eliminating the potential for contamination (Mercer University 2021). This sterile zone is a protective barrier, safeguarding the sterile surgical area from the nearby non-sterile surroundings. This approach helps to reduce the likelihood of introducing microorganisms and, in turn, lessen the risk of infections (Smith et al. 2016, Chap. 16). The equipment used for sterile table preparation plays a decisive role in maintaining a sterile zone. By familiarizing themselves with the necessary items in sterile table preparation, nurses can provide better patient care and gain expertise in accurately

utilizing those components. Similarly, nursing students also need to know their importance and be familiar with how to handle them properly. Nursing students can smoothly apply these acquired skills and knowledge during their clinical practice in hospital settings (Barratt 2018).

2.2.2.1 Sterile Drapes

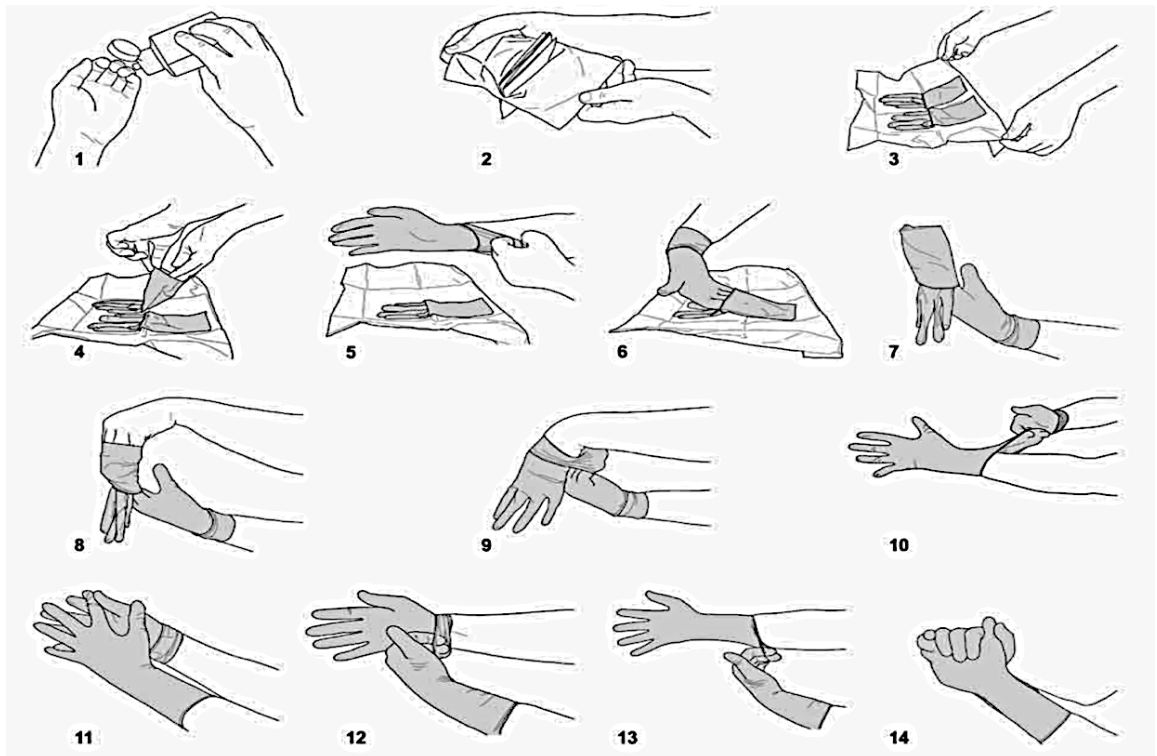
Sterile drapes are sterile sheets or cloths used in medical and surgical settings to establish and maintain a sterile field. These drapes create a barrier to microorganisms from the surrounding environment into the sterile field, helping to prevent contamination and maintain a controlled aseptic workspace (Kieser et al. 2018). They are designed for single use to ensure cleanliness and reduce the risk of cross-contamination (Erby 2023). They come in various sizes and designs according to the needs of medical procedures. The manufacturer follows strict manufacturing and package protocols. It is essential to maintain the sterility of the drapes. The drapes are crafted from materials resistant to fluid penetration (Liu et al. 2023). Picture 5 is an example of sterile drapes used for sterile table preparation. The sterile drapes around the sterile field with a border of 2,5 cm are considered unsterile (Kalona 2014).



Picture 5: Sterile drapes (Joshi & Khanal 2024)

2.2.2.2 Sterile Gloves

Sterile gloves are the types of gloves that are free from microorganisms. Sterile gloves are a barrier to transmitting viable germs in healthcare (Sutherland-Fraser et al. 2022). It reduces the possibility of transmission of pathogens via hands at a minimum level (Sarvikivi 2008). It protects the health care provider from being infected while handling sputum, mucous membranes, urine, skin, and blood, as well as patients under medical supervision. Once a sterile glove is on hand, health professionals must be sterile (Pitkänen 2022). Picture 6 visually illustrates the correct procedure for donning sterile gloves to minimize cross-contamination.



Picture 6: How to use sterile gloves? (Alberta Health Services 2020a)

2.2.2.3 Sterile Instruments

Sterile instruments are essential in various medical procedures, ensuring safe and effective patient care. These instruments are treated with sterilization, eliminating all microorganisms. This strict protocol significantly minimizes the risk of infection associated with medical procedures (Blackmore et al. 2013). These instruments are various ranges of tools designed for specific medical procedures. The most common sterile instruments include forceps, scissors, clamps, needle holders, sterile gauges, sterile solution trays, etc. Once sterile instruments are received, a strict aseptic process must be maintained to avoid contamination (Link 2019). Sterile instruments should be handled with sterile gloves only and never placed in non-sterile areas to minimize the risk of contamination. Healthcare professionals should carefully select and inspect sterile instruments before putting them on a sterile field. Sterile instruments are systematically placed based on the specific requirements of the medical procedure (Hinkle et al. 2022).

2.2.2.4 Disinfection Chemical

Different types of disinfection chemicals are used to eliminate microorganisms and ensure an environment free from contamination during various medical procedures. The selection of

disinfectant mostly depends on the type of surface to be disinfected and the level of disinfection required (Menyhay & Maki 2006). In healthcare procedures, ethanol-based disinfectants are commonly used. It prevents many microbes, such as bacteria, viruses, and fungi. Ethanol is a colorless and volatile liquid easily dissolved in water and is primarily practical when it is 60-90% solution, killing most microbes within 5-30 seconds (Aitasalo & Cao 2021, 15). Picture 7 represents different examples of ethanol products. These chemicals are used for hand hygiene and disinfecting tables in preparation for sterile tables.



Picture 7: Various ethanol-based products serve as disinfectants (Aitasalo & Cao 2021, 15)

2.2.2.5 Sterile Solution

A sterile solution is a liquid that is free from microorganisms. The primary uses of sterile solutions are cleaning wounds, diluting medications, irrigating body cavities, or preparing a sterile environment during medical treatments (Pitkänen 2022). There are different types of sterile solutions according to the need of medical procedures, and typical examples are sterile saline solutions, sterile water for injection, antiseptic solutions, and buffered solutions (Doyle & McCutcheon 2015). The selection of appropriate sterile solutions depends on the specific purpose and demands of medical procedures. In sterile table preparation, sterile solutions maintain a clean and microbe-free environment. During sterile table preparation (Alberta Health Services 2020b), the solutions need to be verified by checking their sterility condition and expiry date, and their cap should be opened facing up on the sterile surface, as shown in picture 8. The sterile solution bottle should be held two inches above and poured into the

receptacle sterile tray without splashing, as shown in picture 9. Once the sterile solution is opened, it is usable within 24 hours.



Picture 8: How to open sterile solution?
(Aitasalo & Cao 2021, 18)



Picture 9: How to pour sterile solution?
(Joshi & Khanal 2024)

2.2.2.6 Sterile Field Maintenance Cart

A sterile field maintenance cart is commonly used in healthcare settings to hold sterile instruments and supplies during medical procedures. A sterile field maintenance cart is one of the essential components of sterile table preparation, which helps to maintain sterility and prevents cross-contamination (Benze et al. 2021). These tables are stainless steel, making them durable and easy to clean. The wheels on the table make them easily moveable according to the need (Scientistlive 2022). The table is covered with sterile drapes to create sterile fields. Similarly, other sterile instruments and supplies are placed on the table, upholding sterile techniques. Picture 10 illustrates an example of a stainless-steel table.

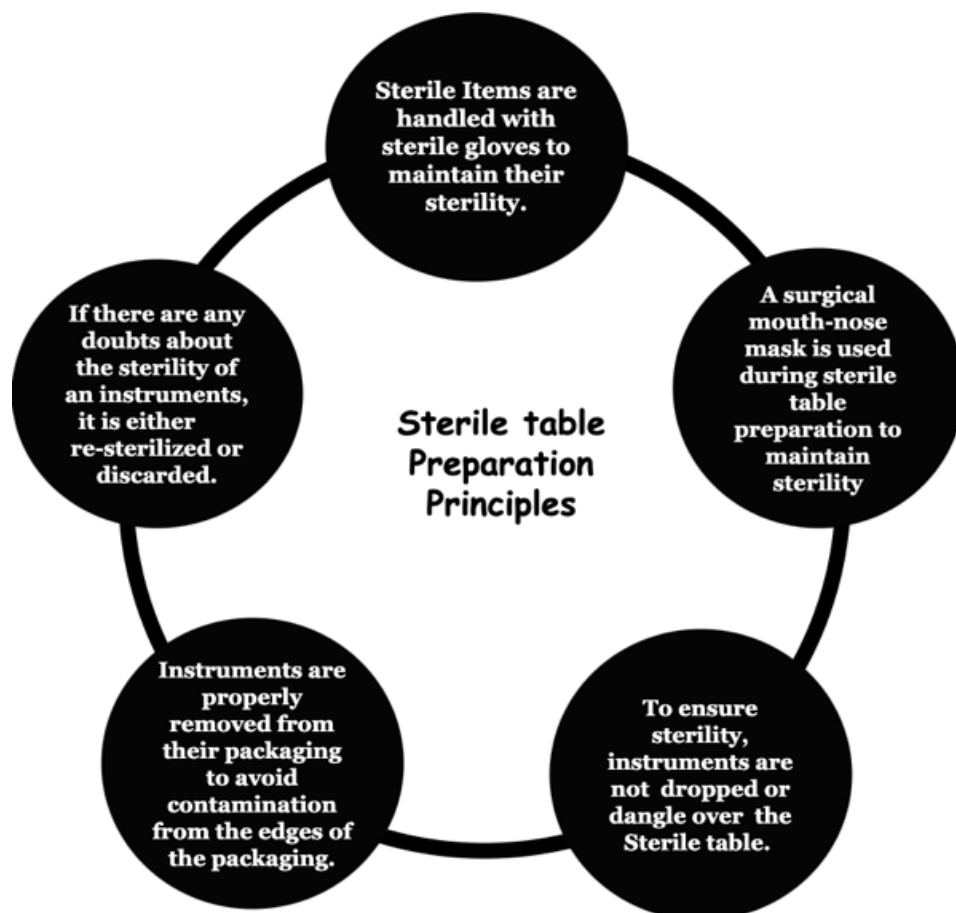


Picture 10: Stainless-Steel Table (Scientistlive 2022)

2.2.3 Nurses' Responsibility Concerning Sterile Table Preparation

Nurses must advocate for patient safety and play primary roles when patients are in the operating room (Mercer University 2021). The patient is in the most vulnerable period of their care while they are in the operating room. As a nurse with other multidisciplinary teams, the nurse must protect the patient and create a sterile environment, which is a line of defense against infection and to prevent surgical site infection (Meneguetti et al. 2018). Nurses are responsible for ensuring all the equipment and supplies necessary for the procedures are sterilized and organized on the sterile table. Nurses must maintain a sterile environment for the patient and medical teams before, during, and after the surgery (Mathenge 2020).

Moreover, following and maintaining the specific protocol and guidelines, nurses should retain a sterile field to avoid contamination and ensure the patient's safety while performing surgical and other medical procedures (Infection Control Today 2020). The Pirkanmaan Sairaanhoidopiiri (2017) lists the standard rules for setting up a sterile table, reproduced in picture 11. This picture highlights standard sterile table preparation principles that nurses must follow while setting the sterile table.



Picture 11: Standard Principles of Making Sterile Table (Pirkanmaan Sairaanhoidopiiri 2017)

2.3 Importance of an Educational Video in Nursing Education

Nowadays, video content has been elemental to the learning experience in education to enhance the curriculum. Research shows that integrating audiovisual materials into the learning process improves learning outcomes, especially for students who struggle to understand the topic (Gedera & Zalipour 2018). Therefore, the main objective of educational videos is to educate and enlighten students about the topic through audiovisual methods. Hence, educational videos can be the most suitable way for nursing students to learn the complex concepts and skills needed.

The key feature of an excellent educational video is the manuscript. It should be comprehensible and logically structured to ensure viewers can quickly understand the topic. The most common features of an impressive educational video include engagement, cognitive load management, and interactive learning (Stone et al., 2020). It should maintain a moderate length to make an engaging educational video. The research indicates that viewers' interest declines after six minutes; therefore, an optimal video should not exceed ten minutes (Mehtälä 2016).

According to Natarajan (2022), educational videos and the traditional way of learning share an equal portion of enhancing the learning experience for nursing students and help to improve their understanding interactively. Video format in the present world helps to showcase real-life scenarios and offers detailed instruction that can be accessed anytime and anywhere. This availability of the materials for the student allows for future review and makes their study plan run smoothly at their own pace (Strickland & Bevan 2023). Similarly, an educational video on sterile table preparation offers nursing students a comprehensive learning experience through various key features (Pilienci et al. 2018). Firstly, it provides clear visual demonstrations that improve understanding of the aseptic technique, cover proper hand hygiene, set up the sterile field, and handle sterile supplies. Additionally, the educational video allows the repetitive practice of sterile skills, allowing nursing students to watch the video repeatedly to improve their proficiency over time. The personalized learning pace further enhances educational experiences, enabling nursing students to control video speed to align their learning styles and needs.

Furthermore, the video covers essential aspects of sterile table preparation, including information on the significance of maintaining a sterile field. It provides detailed instructions on cleaning and disinfecting the workspace, educates students about the various types of sterile drapes and barriers, and offers guidance on creating a sterile field using aseptic techniques. Therefore, these characteristics collectively contribute to detailed and personalized education resources for nursing students, supporting them in theoretical knowledge and practical skills (Ingabire et al. 2015) in sterile table preparation.

3 Purpose And Aim

The purpose of the thesis is to produce an evidence-based educational video for nursing students, covering the principles of sterile table preparation from a Finnish perspective and presented in English.

The thesis aims to contribute to a safer healthcare environment by empowering nursing students with knowledge and skills to prevent patient infections during medical procedures from a Finnish perspective.

4 Working Life Partner

Laurea University of Applied Science is a non-profit public higher education institution in Finland's Uusimaa region. The university was established in 1992. Laurea University of Applied Sciences has six different campuses, which are situated in Tikkurila, Hyvinkää, Leppävaara, Otaniemi, Lohja, and Porvoo. The institute offers various degree programs in business management, social services, health care, and hospitality. Laurea offers eighteen different degree programs, six of which are taught in English. Out of them, the most popular program taught in English is a bachelor's degree in nursing, whose duration is 3.5 years. The nursing program emphasizes hands-on learning, incorporating lectures, workshops, and simulation exercises. The institute has approximately 7800 students, 604 employees, and over 30000 Laurea alums. (Laurea 2023a).

The Laurea University of Applied Science service promises "we are here for you at Laurea" to its staff, students, and stakeholders. The promise assures the university provides students with high-quality education, support, and service. The university is committed to applying the Learning by Developing (LBD) model. The LBD model is based on real-life development, which encourages students to take on challenges and act with manners. In the LBD model, students learn actively to develop knowledge and skills practically in combination with theory, which is required in working life (Laurea 2023b). The employment rate of graduated students from Laurea is 96.4% within a year of graduation (Laurea 2023a).

5 Methodology

5.1 Functional Thesis

The thesis showcases evidence-based knowledge derived from reliable sources and research articles. Upon completion, it allows readers to gain insight into the authors' work and actions.

A functional thesis is a unique approach used in thesis writing at the University of Applied Science. It is about writing a report and solving real problems, especially in nursing. Instead of just papers, a functional thesis produces educational videos, instructional manuals, portfolios, etc., as the final product (Vilkka & Airaksinen 2003, 9, 51). They are all about practical use and often match the needs of a specific job or community. Due to the hands-on nature of the functional thesis, they usually require more time and effort to complete than regular written assignments (Metropolia 2020). The functional thesis combines theory and practice, and the target group consumes its final product. Hence, within the framework of a functional thesis, the application of a collaborative and participatory approach is referred to as co-creation (Marstio et al. 2023). The co-creation approach encourages collaboration and participation among multiple associates such as researchers, industry partners, and potential end-users (Frow et al., 2015).

The procedures associated with co-creation are implemented in the thesis, aligning with Laurea's Learning by Developing (LbD) pedagogical model (Nurkka & Niinikoski 2020). The authors intend to establish relationships with the diverse partners in this thesis. The contributing partners are nursing students, supervisor teachers, and the Laurea University of Applied Science. The supervisor teachers and department of the Laurea University of Applied Science played a catalytic role in facilitating the smooth completion of this thesis. Similarly, the ultimate beneficiaries of the thesis's outcome are nursing students studying in English, called target groups actively participating in evaluating the final product.

5.2 Educational Video Planning

The educational video planning began when the thesis supervisor of our working life partner accepted our thesis plan in a thesis guidance seminar. The planning for the video starts with an ideation session, during which a decision is made regarding the contents of the sterile table preparation video. Only relevant, reliable, comprehensive information on sterile table preparation from the Finnish evidence-based database is included. The authors also applied for research permits to conduct a survey (Laurea 2023c). The research permission is required to use Laurea University of Applied Science premises, equipment for a sterile table preparation video, and target group information to receive feedback on an educational video. The research was conducted to comprehensively understand globally accepted evidence based on aseptic practices in healthcare settings, sterile techniques, and their significance in maintaining public health. The study explored how these principles are applied in sterile table preparation in various healthcare environments. The research also examined the characteristics of effective and engaging educational videos (Stone et al. 2020).

Using a manuscript written from evidence-based literature to guide a video production is crucial. A clear and concise script with clear scene divisions and narrative text in each set makes the video-making process easier. The manuscript for the thesis topic is in Appendix 2. The thesis manuscript was created using databases and search engines such as Google Scholar, YouTube, Terveystieto, Terveystiede Ja Hyvinvoinnin laitos (THL), Theseus, Laurea Finna, and Laurea's library. The keywords used for searching information are sterile, sterile field, sterile principles, aseptic, educational video, nursing students, audio-video learnings, sterile table, sterile table principles, sterile table equipment, hand hygiene, sterile drapes, etc. The sources used are published from the year 2003-2023. Theoretical information and manuscript materials for the educational video are gathered from international and Finnish sources. The purpose of sourcing theoretical information from Finnish sources is to comprehensively address the thesis's objective, i.e., creating an educational video on sterile table preparation for nursing students from a Finnish perspective. After the completion of the manuscript, the authors sent the manuscript to Laurea's lecturer, who is responsible for teaching surgical subjects, to check the accuracy of every step for sterile table preparation. The lecturer asked the authors to clarify some confusion about the manuscript in some scenes, and the email communication is included in Appendix 5. The guidance from the surgical teaching lecturer has helped the authors and directed the implementation of an educational video in the proper direction.

5.3 Educational Video Implementation

The video production commenced after receiving acceptance of a research permit from Laurea University of Applied Science. Creating an educational video for sterile table preparation involves a structured approach that encompasses defining goals and target audience, assembling a team with designated roles, creating a comprehensive storyboard, selecting an appropriate filming location, and gathering the necessary equipment. The location for filming was booked, and the required equipment was collected as Appendix 1 from the Laurea University of Applied Sciences nursing department faculty. The authors used an Apple mobile with stands and light for a quality final product. This is because high-quality video is crucial for learning video programs, particularly those related to medical content (Strickland & Bevan 2023).

In the video, two nurses appeared as sterile and non-sterile nurses. The sterile nurse took the lead in setting up the sterile table and handled sterile items wearing sterile gloves, also known as instrument nurse or scrub nurse. The non-sterile nurse acted as an assistant, opening the sterile supplies and instruments, and ensuring all necessary supplies and instruments were available. Therefore, the non-sterile nurse is also known as a circulatory or circulating nurse. The video labeled the nurses with the text sterile nurse and non-sterile nurse, and the actors'

roles were fixed throughout the shooting. This approach helped minimize the confusion and made the video more concise and apparent to the target group. Both authors were involved in this educational video production as actors, and one also served as narrator in the final video. Therefore, one of the author's friends assisted in recording the video.

After filming, the editing of an educational video began immediately using the software Shotcut (Pon 2023). The length of the video was approximately 10 minutes because the authors were aware of the characteristics of an audience-oriented educational video. Once the video was edited, it was forwarded to the supervisors and surgical teaching lecturer of working life partner for approval. The authors received feedback on the educational video on sterile table preparation and suggestions instead of approval. The surgical teaching lecturer praised the authors for the quality of the video and some parts of the video, such as washing hands and applying hand sanitization processes of both sterile and non-sterile nurses, which made the viewer easy to follow. In the video, the authors were also suggested to explain how to wear sterile gloves in detail and to minimize unwanted non-sterile touch and narrate them. The manuscript of an educational video on sterile tables was further modified. The manuscript modifications were based on comments from the surgical teaching lecturer of the author's working life partner. The authors decided to film some parts of the educational video again. The process of booking a room for filming the video and gathering items for sterile table preparation was again repeated. The educational video was filmed for the second time, and the editing process of the new video was completed in two days. The final video was forwarded a second time to the supervising teachers and surgical teaching lecturer for approval. The surgical lecturer approved the final video of the author's working life partner. The final video included visual demonstrations, comprehensive explanations, and practical insights to enhance students' understanding and proficiency in the complexity of sterile table preparation. In this way, the final version of the educational video of sterile table preparation was produced and made available to the nursing students from Laurea for feedback collection.

5.4 Feedback on Educational Video

Feedback is a crucial stage in developing and improving content. After completing an educational video on sterile table preparation, the authors developed questionnaires related to the thesis objectives and collected feedback. The questions were close-ended, based on a Likert scale of 1-5, corresponding to strongly disagree, disagree, neutral, agree, and strongly agree (Rintari 2017). The close-ended questions are questionnaires that are answered by selecting a limited number of options or rating scales (Dossetto 2023).

The authors used a Google survey form in Appendix 3 to collect feedback on the educational video on sterile table preparation. The authors provided the URL of the educational video, a

link to the Google survey form, and an invitation letter, as mentioned in Appendix 4, to the official email address of the supervisor teachers of the working life partner. The authors' supervisors forwarded the same information to Laurea's second-year and third-year nursing students studying in English for feedback. The authors sincerely selected second-year and third-year nursing degree students because second-year students have theoretical knowledge of perioperative nursing, whereas third-year students understand both theoretical and practical skills of perioperative nursing. Therefore, the authors believed in receiving genuine feedback on educational videos from a selected group of participants. According to the supervisor teacher, sixty-two nursing degree students were sent an educational video, questionnaires, and an invitation for feedback. In the process, the authors ensured the anonymity of participants and did not handle any personal information. Participants were also informed that answering the feedback questionnaire was voluntary and anonymous. Respondents had a week, from 21.02.2024 to 27.02.2024, to respond to the questionnaires based on the educational video. The responses were stored in the Excel sheet. The feedback is essential as it determines whether the author's purpose and aim in an educational video on sterile table preparation have been achieved. The questionnaires along with options used for feedback are as follows:

The length of the educational video was appropriate.

1. Strongly disagree.
2. Disagree.
3. Neutral
4. Agree.
5. Strongly agree.

The content of the video is useful for nursing students.

1. Strongly disagree.
2. Disagree.
3. Neutral
4. Agree.
5. Strongly agree.

The video provided guidance on sterile table preparation.

1. Strongly disagree.
2. Disagree.
3. Neutral
4. Agree.
5. Strongly agree.

The organization and flow of the video are logical and easy to follow.

1. Strongly disagree.
2. Disagree.
3. Neutral
4. Agree.
5. Strongly agree.

The video provided new information for nursing students.

1. Strongly disagree.
2. Disagree.
3. Neutral
4. Agree.
5. Strongly agree.

6 Result

The result of nursing students' feedback on the educational video on sterile table preparation is a crucial phase of the thesis. The authors received six responses out of sixty-two nursing degree students from 2nd year and 3rd years of the Laurea University of Applied Science sent for feedback. However, the six respondents answered all the questions. The responses of the respondents were saved in an Excel sheet. The authors thoroughly evaluated and analyzed the quantitative data (Bhandari 2023) received, and the findings were obtained using descriptive analysis (Hillier 2023). The findings of descriptive analysis techniques on respondents' data are presented diagrammatically using pie charts. The chart tool of an Excel application was used to create a pie chart. The pie chart is an excellent way to show the result, as it is a precise, simple tool that can demonstrate the result in the simplest way possible (Bock 2022). This process is essential as it helps draw conclusive results from an educational video of sterile table preparation.

The feedback data on the educational video of sterile table preparation indicate overall positive responses. Most respondents either agreed or strongly agreed, and very few were neutral. Mostly, the percentage used in the pie chart (Stevens 2023). The authors used the exact respondents' values in the statistical representation as the respondents' numbers were smaller. The five pie chart diagrams illustrating respondents' feedback results, i.e., nursing students studying in English, were created.

The first question on the feedback form asked if the length of the educational video was appropriate. In this question, the total number of respondents was 6. Most respondents gave

positive feedback on this question, with 2 answering strongly agree and 3 answering agree. However, 1 of the respondents was neutral, i.e., neither agree nor disagree. Figure 1 represents the result diagrammatically using a pie chart.

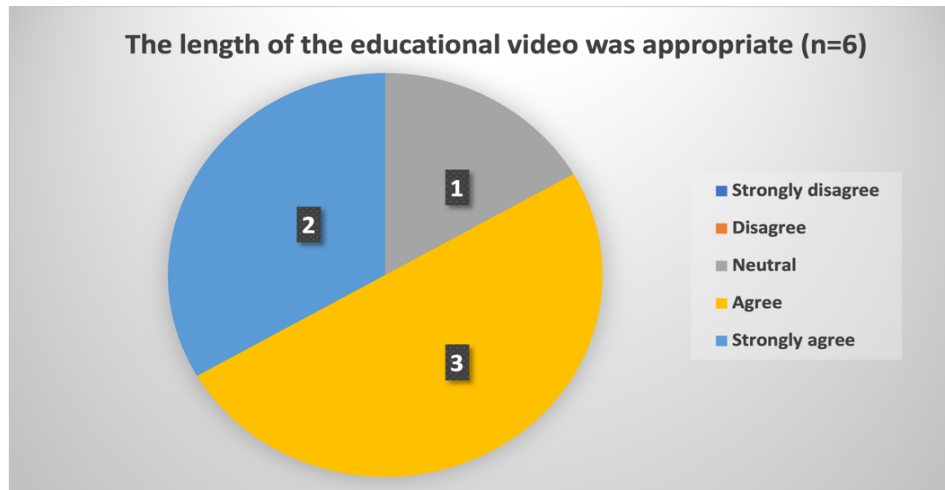


Figure 1: The length of the educational video

The second question asked on the feedback form was if the contents of the educational video were useful for nursing students. In this question, the total number of respondents was 6. None of the respondents disagreed and remained neutral. Therefore, every respondent responded positively to the usefulness of the contents presented in the educational video for nursing students while preparing a sterile table. The total number of respondents answering strongly agree was 4, whereas 2 answering agree. The pie chart in Figure 2 displays the result diagrammatically.

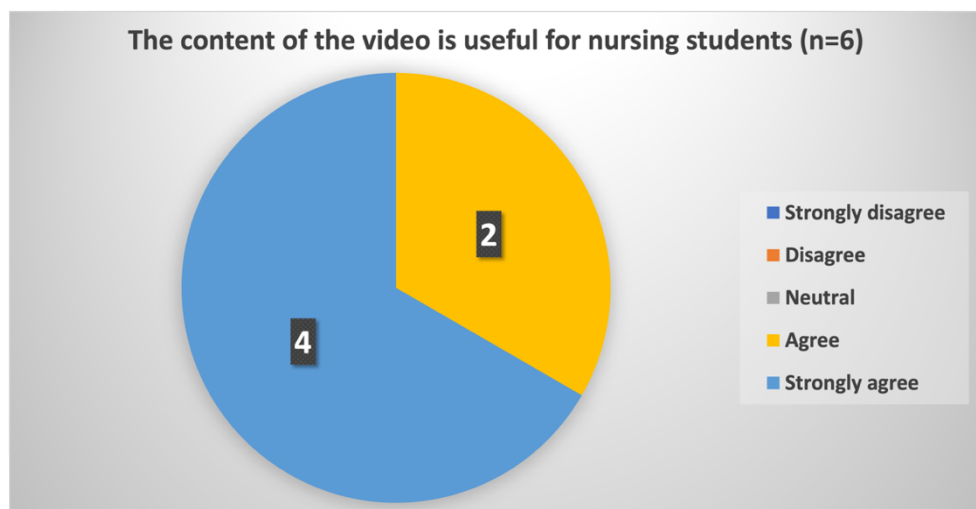


Figure 2: Usefulness of content for nursing students

The third question on the feedback form asked if the educational video provided guidance on sterile table preparation. In this question, the total number of respondents was 6. Every respondent gave a positive response. The total number of respondents answering strongly agree was 3, and 3 answering agree. The pie chart in Figure 3 displays the result diagrammatically.

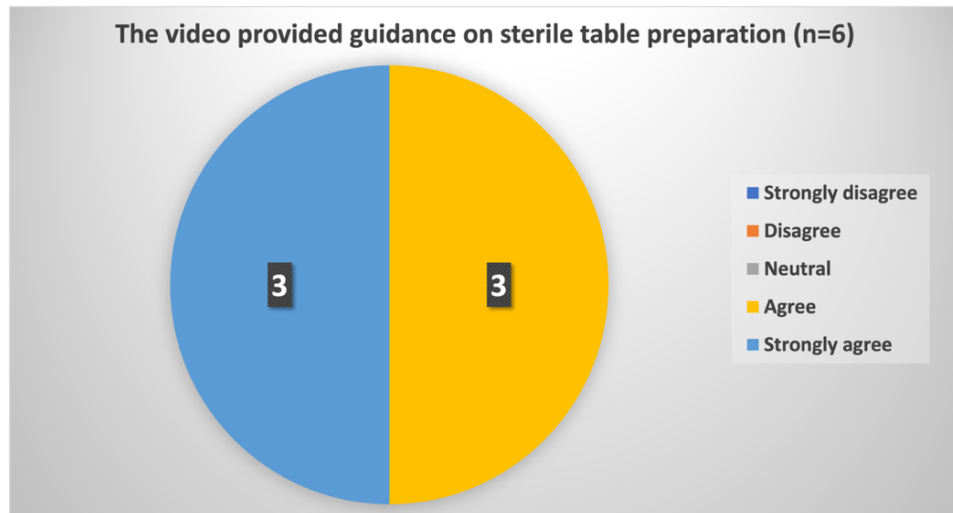


Figure 3: Guidance for sterile table preparation

The fourth question asked on the feedback form was if the organization or flow of educational video is logical and easy to follow on sterile table preparation. In this question, the total number of respondents was 6. Every respondent agreed that the order of presentation on the video was simple, logical, and easy to follow. The total number of respondents answering the strongly agreed was 4, and the number of respondents with the agree option was 2. The pie chart in Figure 4 displays the result diagrammatically.

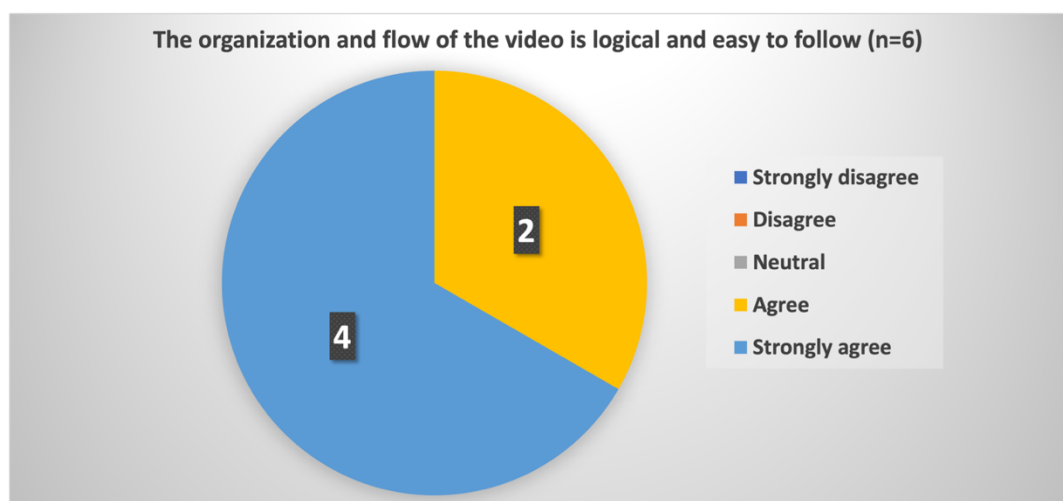


Figure 4: Order of presentation in the educational video

The fifth question on the feedback form was whether the educational video provided new information on sterile table preparation for nursing students. In this question, the total number of respondents was 6. Every respondent gave an affirmative response. The total number of respondents answering strongly agree was 3, and 2 answering agree. However, 1 of the respondents was neutral, i.e., neither agree nor disagree. The pie chart in Figure 5 displays the result diagrammatically.

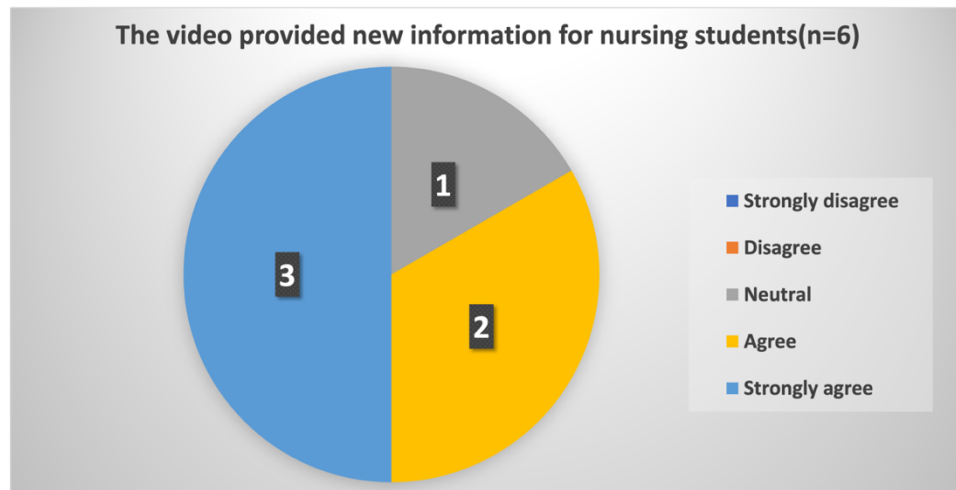


Figure 5: New information for nursing students demonstrated in the video

7 Discussion

The purpose of the thesis is to produce an evidence-based educational video for nursing students that covers the principles of sterile table preparation from a Finnish perspective and is presented in English. The motivation for the thesis on sterile table preparation arose during the national core competence exam. During the national core competence exam, the authors sought video learning material on this subject from a Finnish perspective in English. However, the authors could not find any. Laurea University of Applied Science did not have an educational video on sterile table preparation either. Therefore, making an educational video on this subject was undoubtedly necessary, and collaborating with a working life partner to produce an educational video was justified. To produce the educational video, the authors used the functional thesis method. Educational videos have several benefits for nursing students as they facilitate increased retention and recall of information due to audio and visual elements. The final product also benefits nursing students through a personalized learning process. Due to the on-demand nature of the video, nursing students play, pause, and rewind to cope with their learning pace and convenience.

The authors used various Finnish books and research papers on aseptic principles for sterile table preparation according to Finnish healthcare guidelines. The authors compiled a broad theoretical background to support producing an educational video and thesis report with that information. The thesis process started with creating a project schedule after setting clear goals and milestones for each task. The tasks are thesis plan, application for a research permit, booking the room to shoot the video, Shooting the video and editing, data collection and analysis, and defining chapters. For each task, sufficient time was allocated to ensure its completion. A few changes were made to the project schedule whenever required. The authors also faced time management and communication challenges while writing the thesis and producing the educational video. One of the authors had to travel 5-6 hours to reach the educational video shooting premises, i.e., Laurea. The authors tried to plan and schedule the video shoot on the same day whenever possible to save travel time. Microsoft Outlook email service was crucial in communicating with supervisor teachers to prioritize the author's tasks. As English is not the author's primary language, time was also allocated to check the report's grammar. The authors used the Grammarly web application to check the accuracy of the grammatical accuracy of the report. Time was also allocated to review supervisor feedback and make corrections to the thesis report.

The educational video has the potential to serve as an efficient learning tool and keep nursing students up to date on sterile table preparation procedures from the Finnish perspective. However, learners must engage in the video material from start to end. The flow of educational videos is always direct in their narrative. In this thesis, the educational video includes aseptic approaches such as handwashing, hand disinfections, donning sterile gloves, opening the sterile drapes to place on a disinfected table, opening the sterile items, and putting them in the sterile field. While doing these actions, the authors also narrated the importance of different aseptic steps and actions to be avoided in the video. It makes the video clear and easy to follow, and viewers know the reasons for the actions. The actions that were repeated and explicit were speed-up to save time and maintain the viewer's interest. The viewer's interest does not decrease if the length of the video is approximately 10-12 minutes (Guo et al. 2014). The total length of an educational video on sterile table preparation was 9 minutes and 38 seconds. Therefore, the thesis educational video is idle to grasp the target audience's interest.

The collected feedback revealed that most respondents felt the video helped them learn and provide proper guidance on sterile table preparation for different medical settings. The respondents also agreed that the length of the educational video and the flow of scenes were logical and easy to understand, holding their interest until the end. According to their feedback, the educational video provided new information that was executed in different scenes for nursing students. Some respondents remained neutral, but no respondents gave negative feedback. Therefore, the feedback result justifies the author's decision to collaborate with the working life partner to develop an educational video for nursing students studying English. The

entire thesis process supported contributing to a safer healthcare environment by empowering nursing students with knowledge and skills to prevent patient infections during medical procedures. The entire thesis process not only empowers nursing students' knowledge and skills but also enhances authors' skills to write academic papers, use national and international research papers, develop effective video learning materials, manage their time, and develop interpersonal skills.

7.1 Ethical Consideration

The general guidelines produced by the Finnish National Board on Research Integrity (TENK) on the ethical principles of research with human participants are thoroughly followed. To respect their anonymity, the authors did not handle any participants' personal data. The authors' questionnaires followed the guidelines provided by TENK more precisely. The authors also respected the dignity and autonomy of the participants. The authors were aware that the research process did not cause any risk, damage, or harm to the participants (TENK 2023).

Laurea, being a cooperating partner of this thesis, the authors followed the guidelines of Laurea for referencing and citing the sources, according to the guidelines of Laurea AMK. The authors obtained a permit from Laurea AMK to conduct research and produce the educational video, which will be uploaded to Laurea AMK's YouTube account after the thesis's publication. Our target group will have access in the future at any time and from anywhere. The feedback questionnaires wholly followed the guidelines of TENK to ensure the rights of the participants were fully respected, and they were never compelled to fill out the questionnaire. Feedback collection is only intended for research to positively affect the targeted group. The working life partner Laurea has employed the Urkund plagiarism detection system to assess the authenticity of the thesis. Therefore, the authors avoided dishonesty, falsification, and the fabrication of information.

Before starting the survey, the authors informed the participants to use the collected data exclusively for this thesis. Once the data were processed, the collected data were securely destroyed. The process of the thesis was formulated so that the participants' nursing students were only exposed to the supervising teachers of working life partners in the thesis. Similarly, participants were informed that their involvement would not be compensated and that they would retain the option to withdraw from the process at any point in the research process.

7.2 Reliability and Validity

Middleton (2019) states that reliability is about the consistency of a measurement or test that produces consistent results repeated under similar conditions. It is a significant portion as it ensures the data and information collected are accurate and trustworthy. The thesis's credibility and validity can be established only with reliability (Kylmä & Juvakka 2007, 128). A thesis is considered reliable when it produces consistent results under repetition. Overall, reliability enhances the quality and trustworthiness of the product, developed through various research and findings from valid sources and based on the latest evidence-based practice (Kylmä & Juvakka 2007, 127).

In this thesis, authors have used valid, latest, reliable sources on the topic matter so that the target group, i.e., nursing students, has the most reliable source for getting the information on the preparation of the sterile table. All the sources used were based on current Finnish guidelines and evidence-based practices. Therefore, the resource materials used in the thesis are based on existing information. The information gathered was carefully assessed and chosen using inclusive and exclusive approaches (Kylmä & Juvakka 2007, 121). These inclusive and exclusive approaches were used to access accurate information and up-to-date materials to fulfill the purpose and aim of the thesis. The sources used follow Finland's Laurea guidelines, THL, and social and health affairs. Studies and research papers in Finnish were also used. The authors carefully translated the Finnish research papers from the Finnish language to English so that the information used was not distorted and was valid for the thesis. Most of the resources are used for up to 10 years. However, the authors also used older sources in the theoretical background as the authors believe that the definition remains the same and the unavailability of new versions of sources. There are multiple resources on the thesis topic; however, the authors prioritized more trustworthy and relevant resources aligned with the thesis's keywords, purpose, and aim.

To gather feedback, the question statements employed in the Google survey form were appropriately planned to correspond with the purpose and aim of the thesis. The questionnaires were formulated to ensure clarity and comprehension for the target audiences, i.e., nursing students. The Likert scale facilitated ease and uniformity of response selection among all participants. Therefore, this strengthens the thesis's reliability and validity. The reliability of the thesis is maintained by explaining to the reader what has been done and how it has been done to make it more transparent and more understandable (Kylmä & Juvakka 2007, 129).

7.3 Limitation

Every thesis has some limitations. Therefore, identifying and acknowledging this limitation is crucial for academic honesty and integrity. After successfully creating an educational video, the project had some limitations. Six nursing students out of sixty-two participated in the feedback collection through the Google survey form. Therefore, broad generalization may not be applicable. The diminished response rate could come from multiple factors such as the short feedback collection time, i.e., seven days only, and the small scope of the feedback group or unknown factors. Therefore, extending the feedback collection time and involving a larger sample could enhance the response rate, and broad generalization is applicable. Further investigation can be done to find a genuine reason for the low response rate and improve it in the future.

8 Conclusion and Recommendation

The purpose of the thesis is to produce an evidence-based educational video for nursing students covering the principles of sterile table preparation from a Finnish perspective in English. The thesis output contributes to a safer healthcare environment by empowering nursing students with knowledge and skills to prevent patient infections during medical procedures. It is hard to find the video materials on sterile table preparation in English from the Finnish healthcare perspective. Therefore, this allows the authors to deliver unique products. The final product was necessary for nursing students studying English and helpful for self-learning. The feedback result also verifies that most students participating in the feedback process were satisfied with the final product. Therefore, the authors also concluded that the educational video on sterile table preparation for nurse students from a Finnish perspective is helpful for all nursing students. Thus, the final product can be used in nursing curricula for nursing students.

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Appendix 1: Necessary Equipment for Sterile Table Preparation

To prepare a sterile table, all essential equipment should be procured and inspected for any damage and expired dates. The equipment required for sterile table preparation are:

1. Sterile drapes
2. Sterile solution
3. Sterile gloves
4. Factory Clean gloves
5. Disinfection chemicals
6. Sterile field maintenance cart
7. Sterile instruments and supplies
 - a. Sterile Forceps
 - b. Sterile Scissors
 - c. Sterile Clamps
 - d. Sterile solution tray
 - e. Sterile Crile
 - f. Sterile guage
 - g. Sterile wound patch

Appendix 2: Manuscript for Sterile Table Preparation Educational Video

Roles: Parbati Joshi as Sterile Nurse (instrument nurse), Bipin Khanal as Non-Sterile Nurse (circulating nurse)

Action in the scene	Description about Scene	Text for Narration
<p>Scene 1:</p> <p>Title of the educational video</p>	<p>The logo of Laurea and title of Educational Video:</p> <p>“Sterile table Preparation An Educational video for Nursing students”</p> <p>Names of authors:</p> <ul style="list-style-type: none"> • Bipin Khanal • Parbati Joshi 	
<p>Scene 2:</p> <p>Disclaimer</p>	<p>In this scene, the text as disclaimer is displayed.</p> <p>“This video is intended for training purpose only and based on Finnish perspective. If you have any questions or concerns about steps outlined in this video, please consult with a qualified healthcare professional for guidance.”</p>	<p>Narrating the text written in description.</p>
<p>Scene 3:</p> <p>The slide briefly explains definition of Sterile Table Preparation</p>	<p>Definition:</p> <p>“Sterile table preparation is a systematic process of creating and maintaining a sterile field.”</p>	<p>Narrating the text written in description of scene.</p>
<p>Scene 4:</p> <p>The video shows components for a Sterile</p>	<p>In this scene, nurses check the sterile table preparation components and verify their</p>	<p>The list of items for sterile table varies based on different medical settings. But the basic items are:</p>

<p>table preparation and inspecting them for any damage and expired items.</p>	<p>expiry date and usability one by one having close-up shoot.</p> <p>Items required are:</p> <ul style="list-style-type: none"> • Sterile drapes • Sterile Solution • Sterile gloves • Factory Clean gloves • Disinfection Chemicals • Stainless steel table • Sterile Instruments and supplies <ul style="list-style-type: none"> ○ Sterile Forceps ○ Sterile Scissors ○ Sterile Clamps ○ Sterile solution tray ○ Sterile Crile ○ Sterile gauge ○ Sterile wound patch 	<ul style="list-style-type: none"> • Sterile drapes • Sterile Solution • Sterile gloves • Factory Clean gloves • Disinfection Chemicals • Stainless steel table • Sterile Instruments and supplies <ul style="list-style-type: none"> ○ Sterile Forceps ○ Sterile Scissors ○ Sterile Clamps ○ Sterile solution tray ○ Sterile Crile ○ Sterile gauge ○ Sterile wound patch <p>Narrate this also:</p> <p>Inspecting them for any moisture or water damage, expiry date, check any broken or damaged seals, check for punctures, tears, or holes of the packaging material, verifying the labeling on the package is accurate and matches the intended contents, indicator has changed the color.</p>
<p>Scene 5: The video shows two nurses and their roles:</p>	<p>In the scene, two nurses' video is captured and labeling them as Sterile Nurse and Non-Sterile</p>	<p>Narrate the following:</p>

<p>Sterile Nurse: Wears sterile gloves, taking the lead in setting up Sterile Table. Also known as instrument nurse or scrub nurse.</p> <p>Non-Sterile Nurse: Provides unwavering support, assisting Sterile Nurse in handling sterile supplies and instruments. Also known as circulatory nurse or circulating nurse.</p>	<p>Nurse as text in the video so that target group easily recognize them while performing actions.</p>	<p>There are two nurses known as Sterile Nurse and Non-Sterile Nurse</p> <p>Sterile Nurse wears sterile gloves and takes a lead in setting up sterile table whereas Non-Sterile nurse performs supportive action to Sterile nurse and opens sterile supplies and instruments for Sterile nurse to place on the sterile field.</p>
<p>Scene 6:</p> <p>Explain about wearing hair covers and masks by nurses.</p>	<p>In this scene, nurses are using wearing hair covers to prevent hair from falling into sterile field (aseptic area), reducing the risk of contamination. They also used masks to prevent the spread of infectious disease through respiratory droplets and preventing touch the face. These should be done before starting the preparation of sterile table.</p>	<p>Narrate the description of the scene in the video.</p> <p>To prepare sterile table nurses wear hair covers to prevent hair from falling into sterile field and reducing the risk of contamination.</p> <p>They also need to used mask to prevent the spread of infectious disease through respiratory droplets and preventing touch the face. These should be done before starting the preparation of sterile table.</p>
<p>Scene 7:</p> <p>Displaying the text in the educational video “Step-by-step sterile Table Preparation”</p>	<p>In this scene, the text “step-by-step sterile Table Preparation” pops up in bold text.</p>	

<p>Scene 8:</p> <p>Demonstration of proper handwashing by nurses before the administering care.</p>	<p>In this scene, nurses perform handwashing to remove visible dirt with clean running water and soap vigorously including hands, between fingers, under nails and around thumbs for at least 20 seconds. Use single-use non-sterile paper to dry the hand. We need to make hand dry because, alcohol-based hand disinfection liquid becomes diluted and because ineffective when it is rubbed with wet hand.</p>	<p>Narrate the description of the scene in the video.</p> <p>“We need to wash hands to remove visible dirt with clean running water and soap vigorously between fingers, under nails and around thumbs for at least 20 seconds. Then hands are made dried using single use non-sterile paper because the alcohol-based hand disinfection liquid becomes diluted when it is rubbed in wet hands and makes them less effective.”</p>
<p>Scene 9:</p> <p>Demonstration of proper Disinfection process or hand sanitizing process</p>	<p>In this scene, disinfecting hand using 3-5 milli-liters of hand sanitizer on left palm and rubbing hands together thoroughly including palms, between fingers and under nails for at least 15-30 seconds. Leave the hand to make it dry.</p>	<p>Narrate the description of the scene in the video.</p> <p>To disinfect the hands, we need to pour about 3-5 ml of hand sanitizer on the left palm and rub hands together thoroughly including palms, between fingers and under nails like handwashing (six-point techniques) for at least 15-30 seconds until our hands become dry.”</p>
<p>Scene 10:</p> <p>Demonstration of wearing Factory clean gloves by non-sterile nurse.</p>	<p>In this scene, the non-sterile gets the Factory clean gloves and wears.</p>	<p>Narrate the description of the scene in the video.</p> <p>Here non-sterile nurse wears factory clean gloves.</p>
<p>Scene 11:</p>	<p>Non-sterile nurse demonstrates the disinfection of the sterile</p>	<p>Narrate the description of the scene in the video.</p>

<p>The video shows non-sterile nurse disinfecting the stainless-steel table surface using ethanol-based disinfectants.</p>	<p>table surface using ethanol-based disinfectants by wiping the surface from right to left, including edges and legs, using sterile cotton clothes.</p>	<p>Non-sterile nurse is disinfecting the surface of the stainless-steel table.</p>
<p>Scene 12:</p> <p>The video shows non-sterile nurse trashing the factory clean gloves after disinfecting the table.</p>	<p>In this scene, the non-sterile nurse takes off the factory clean gloves and trashes into the trash bin after the completion of disinfecting table.</p>	<p>Narrate the description of the scene in the video.</p> <p>The non-sterile nurse takes off the factory clean gloves and trashes into the trash bin after the completion of disinfecting table.</p>
<p>Scene 13:</p> <p>The video demonstrates the proper techniques of opening and wearing sterile gloves by sterile nurse, ensuring aseptic techniques throughout the procedure.</p>	<p>In this scene, sterile nurse opens the sterile glove package with clean and dry hand. The nurse grasps the cuff of the sterile gloves with non-dominant hand and inverts the glove so that the inner surface faces out and extends the hand into the glove ensuring the fingers are not touching the outside the gloves. Similarly pulling the glove over the hand ensuring the cuff is completely closed and repeat same process for another sterile gloves too.</p>	<p>Narrate the following:</p> <p>Sterile nurse is wearing sterile gloves.</p> <ul style="list-style-type: none"> • Opens the sterile gloves package on disinfected platform. • When pulling on the first glove, hold only the bent part of the glove with your bare hand from the inner surface of the glove i.e. the side that comes against the skin. • Pull the gloves over the wrist. Be careful not to touch the sterile parts of the glove with bare hand.

		<ul style="list-style-type: none"> • Put the fingers of the hand covered with a sterile glove outside the bent part of the other glove i.e. outside the glove. • Pull the glove over the wrist and pull the mouth parts of the gloves into place.
<p>Scene 14:</p> <p>In this scene, the video demonstrates the position of sterile nurse and their description.</p>	<p>The sterile nurse should place the hands front from the mid-chest to the waist level all the time.</p>	<p>Narrate the following:</p> <p>The sterile nurse should place the hands front from the mid-chest to the waist level all the time.</p>
<p>Scene 15:</p> <p>Video demonstration of non-sterile nurse performing hand hygiene to open the drapes and place in the table.</p>	<p>Here, Non-sterile nurse perform the hand hygiene.</p>	<p>Narrate the following:</p> <p>Again, non-sterile nurse is performing hand hygiene process.</p>
<p>Scene 16:</p> <p>Video demonstration of non-sterile nurse check integrity of sterile drapes and repeat same for other sterile items.</p>	<p>In this scene, the non-sterile nurse checks the integrity of sterile drapes and repeat same for rest sterile items.</p>	<p>Narrate the following:</p> <p>Non-sterile nurse checks the integrity of sterile drapes such as moisture or water damage, expiry date, damaged seals, checking any tears or holes, checking the label on the package accurate to the item placed.</p>

		The same process is repeated for rest sterile items.
<p>Scene 17:</p> <p>Video demonstrates the proper sterile techniques for opening the sterile drapes by non-sterile nurse.</p>	<p>In this scene, assistant non-sterile nurse opens the sterile drape package along the designated tear lines.</p>	<p>Narrate the following:</p> <p>non-sterile nurse is tearing the sterile drape package from the designated tear line without touching the inner surface. If he touches the inner surface of a drape, then it becomes contaminated. Then we cannot use it again.</p>
<p>Scene 18:</p> <p>Video demonstration of grasping out sterile drapes from the package precisely by sterile nurse.</p>	<p>In this scene, sterile nurse wearing sterile gloves grasps the sterile drape by the top edge and holds them securely while opening it.</p>	<p>Narrate the following:</p> <p>Now sterile nurse who is wearing sterile gloves gently grasps the sterile drape by the top edge and holds them securely.</p>
<p>Scene 19:</p> <p>Video demonstration of a sterile nurse opening the sterile drapes in the air and placing onto disinfected table while maintaining a distance of at least 50 cm by both nurses.</p>	<p>In this scene, sterile nurse gently opens the sterile drapes in the air and spreads over the disinfected table ensuring it covers entire area and making a distance of at least 50 cm.</p>	<p>Narrate the following:</p> <p>The sterile nurse gently opens the sterile drape in the air and spreads over the disinfected table ensuring it covers entire area and making at least 50 cm distance from the table by both nurses.</p>
<p>Scene 20:</p> <p>The video shows non-sterile nurse carefully opening the package of</p>	<p>In this scene, assistant non-sterile nurse opens the sterile instruments package along the designated tear lines. Then</p>	<p>Narrate the following:</p> <p>Now, non-sterile nurse tears the package of sterile instruments through the</p>

<p>sterile instruments while sterile nurse quickly takes the sterile instruments and puts them with care on the sterile field on the sterile table.</p>	<p>sterile nurse gently grasps the sterile instruments and places it on to the sterile field.</p> <p>The same process is repeated for whole sterile instruments.</p>	<p>designated tear lines so wide that sterile scrubs won't contaminate sterile gloves when pulling the sterile items out of the package. It is because edges of sterile packages are considered unsterile.</p> <p>The same process is repeated for whole sterile instruments.</p>
<p>Scene 21:</p> <p>Non-sterile nurse opens the cap of sterile solution. Pour the sterile solution from the bottle into the sterile tray without splashing while sterile nurse is holding the sterile solution tray and place it back to sterile field.</p>	<p>In this scene, non-sterile nurse holds sterile solution bottle with one hand and opens the cap of bottle. Then holds both above the Waist. Then, pouring the sterile solution in the sterile tray place in the sterile field without splashing while sterile nurse is holding and place it back to sterile field.</p>	<p>Narrate the following:</p> <p>Here non-sterile nurse holds sterile solution bottle with one hand and opens the cap of bottle. Then holds both above the Waist. Then, pouring the sterile solution in the sterile tray place without splashing while sterile nurse is holding and place it back to sterile field.</p>
<p>Scene 22:</p> <p>Video Shows the perfect setup of sterile table.</p>	<p>In the scene, the video is taken to showcase the arrangement of sterile table and its basic equipment.</p>	<p>Narrate the following:</p> <p>After completing all the necessary processes of sterile table preparation, the results look like this.</p>
<p>Scene 23:</p> <p>The video shows what we should not do when setting up a sterile table.</p>	<p>In the scene, the video displays the text as following:</p> <p>Actions to be avoided while setting up sterile table:</p>	

	<ul style="list-style-type: none"> • Do not put hand below the waist after wearing sterile gloves. • Do not place non-sterile equipment or supplies on the sterile field. • Do not show your back to the sterile table. • Do not move out after sterile table is prepared. • Anything that drops on the hospital floor does not come back to use. • Do not wear ornaments, wristwatch etc. 	
<p>Scene 19:</p> <p>Video shows closing statement with laurea's logo and information about participants of the video making.</p>	<p>This scene displays a picture of laurea's logo.</p> <p><u>Script and Director</u></p> <p>Parbati Joshi</p> <p><u>Actors</u></p> <p>Parbati Joshi as Sterile Nurse</p> <p>Bipin Khanal as Non-Sterile Nurse</p> <p><u>Narrator</u></p> <p>Bipin Khanal</p>	

Appendix 3: Google Survey form [Link](#)

Appendix 4: Invitation letter for Survey

Sterile Table Preparation An Educational Video for Nursing Students

Dear participant,

We, Bipin Khanal and Parbati Joshi, are third year bachelor's degree nursing students at Laurea University of Applied Sciences. Currently engaged in our functional thesis, our focus is on creating an educational video titled "Sterile Table Preparation: An Educational Video for Nursing Students" in English. The primary objective of this thesis is to develop an evidence-based educational resource for nursing students. The content will cover the principles of sterile table preparation from a Finnish perspective. Our goal is to empower nursing students with the knowledge and skills necessary to prevent patient infections during medical procedures in the Finnish context. Therefore, our participants are 2nd years and 3rd years nursing students studying at Laurea University of Applied Science and we warmly invite you to participate in this study by completing the attached questionnaire as a Google Survey form.

If you choose to participate, you will be required to watch a brief educational video on sterile table preparation lasting approximately 10 minutes. Subsequently, we kindly ask you to complete a short survey providing feedback on the video. The survey will inquire about your comprehension of the content, your perception of the visuals, and your overall assessment of the video's effectiveness as a learning tool. The survey is expected to take 3-4 minutes to complete. Your participation is voluntary, and you have the right to withdraw from the study at any time without facing any penalties. Your responses will remain confidential and will only be used for this study. There are no known risks associated with participating in this study, and the potential benefits include contributing to the enhancement of educational resources available to nursing students in English.

Apart from the researchers, no external parties have access to the collected data. No background information is sought from respondents, and after the research, all collected data will be properly destroyed. The deadline for answering is 27.02.2024.

Video Link:



https://laureauas-my.sharepoint.com/personal/2102111_laurea_fi/_layouts/15/stream.aspx?id=%2Fpersonal%2F2102111%5Flaurea%5Ffi%2FDocuments%2FSterile%5Ftable%5Fprepartion%5FEducational%5Fvideo%2Emp4&ga=1&referrer=StreamWebApp%2EWeb&referrerScenario=AddressBarCopied%2Eview

Feedback Questionnaire link:

<https://docs.google.com/forms/d/e/1FAIpQLSezH2oRcyDt9Y0dUv025v7wFUmJx-LUZC0GevqKTrxFUJfkFQ/viewform?vc=0&c=0&w=1&flr=0>

We sincerely appreciate your valuable time in assisting us with the completion of our thesis project. If you have any further questions, you can contact us.

Appendix 5: Email of Request for Review of video manuscript and video



Fri 1/19/2024 11:47 AM

Hei Parbati and Bipin,


thank you for you email. Always lovely to hear from you. I hope you are both doing well.
I'm also glad to hear that you are interested in making a video of preparation of sterile table.

I will briefly raise up some questions which came into my mind:

- does a viewer need to know where this is happening? (OR, out patient clinic, ward?)
- what kind of personal protective equipment (other than gloves) do these nurses have, while preparing sterile table?
- scene 10: on what surface does nurse 1 open the gloves?
- what has to be checked of sterile package before opening it the sterile field?
- how about nurse 2 hand hygiene?
- scene 16: does nurse 2 go over sterile field?
- scene 18: maintain aseptic technique...
have you find out the principles in aseptic practise?

Could you define what does aseptic technique really keep inside in this case?
In over all it's a big concept...

Good job both of you! Please let me know how you are doing and please let me see the video when it's ready.



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