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EMESONG NKENGEH TJANEFANCES

A Day of Physical Gymnastics

Activities for the Elderly

DEGREE PROGRAMME IN NURSING
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ABSTRACT

Emesong Nkengeh T Janefrances: A Day of Physical Gymnastics Activities for the older

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Aging is a natural process that everyone undergoes. Older adults may experience challenges such as reduced strength, reduced flexibility, and general body imbalance. Staying physically active helps reduce these challenges and promotes total well-being. Gymnastics for older adults provides low-impact aerobic exercise options that help to improve their physical fitness and wellbeing. The aim of the thesis is to describe a day gymnastic activity for the elderly in Attendo Siltalanpuisto care home.

Agile method was used for carrying out this project. This is because it allows for modifications during the project's lifespan. The project went through all the phases prescribed by Agile method (Requirement, Design, Development, Testing, Deployment and Review).

The implementation of a day of gymnastic activities for older adults at Attendo Siltalanpuisto was successful. Although not all participants are fit in all the activities contained in the brochure (the thesis final product that was presented to the hospital as a guide) due to diverse issues relating to their health. However, the impact of the gymnastic activities performed by participants was positive based on the feedback received.

The study recommends that to get the best out of gymnastic activities, then there is a need for consistency. This is because, through consistency, older adults will be able to maximize the full benefits of gymnastic activities. The findings of the thesis are not limited to Attendo Siltalanpuisto care home, as it can be effectively utilized by other care homes and health care professionals both in Finland and other parts of the world.

Keywords: Gymnastics, Older adults, Care homes.

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1 INTRODUCTION

Recently, the world's population is getting older. According to the top current United Nations population projection, the amount of the world population over 60 is predicted to quadruple by 2025, having topped 700 million in 2009 (United Nations 2009, 423). Many decades, older people's life expectancy keeps rising. Global life expectancy has increased consistently (by a quarter of a year annually) according to the first half of the 20th century, when it soared quickly. It has led to the present level of 66 years (Lubitz et al, 2003). About half of hospitalised people are 65 years of age or older according to research (Kleinpell, Fletcher & Jennings 2008).

Aging often brings physical challenges and health problems. Most elderly people go on retirements from day-to-day stressful activities and life; it is strongly recommended to engage in activities which have positive impacts on their wellbeing. For the elderly, restoring independence with a standard of living is very important (Bowling 2005, 193) It is important to have meaningful and healthy activities with a good lifestyle (Helio et al, 2013).

The European countries including Finland are experiencing a rapid growth in the ageing population which is resulting a high demand care rate being transferred from family members to a need of care homes such as Attendo siltalanpuisto which happens to be the organization where this project was carried out. Older adults may experience challenges such as reduced strength, reduced flexibility, and general body imbalance. Staying physically active helps reduce these challenges and promotes total well-being. Gymnastics for older adults provides low-impact aerobic exercise options that help to improve their physical fitness and well-being. Also, regular participation in gymnastics leads

to several health benefits, particularly for cardiovascular wellbeing (U.S. Department of Health and Human Services 2008).

Healthy aging needs frequent active physical activity. Frequent physical activity has positive health benefits for adults 65 and older, which these benefits might be throughout a lifetime (U.S. Department of Health and Human Services 2008). Furthermore, they are basically physically active for age group, older persons can have specific care in physical activity promotion (U.S. Department of Health and Human Services 2008). The design of older people is diverse. The greater, though not all, suffer from one or critical conditions, which differ in kind and intensity (Khemapetch, 2016). The United state of America Department of Health and Human Services (2008), many has lost some degree of physical fitness as they get old.

This thesis was to describe a day of gymnastics activities for older adults in Attendo Siltalanpuisto. This also will serve as a solution that will enhance the quality of life and reduce loneliness encountered by old people living in care homes.

2 THEORETICAL BASIS OF THE PROJECT

2.1 Crisis Which Older Adult's Encounter

The number of elderly people over 65 has kept adding up since the year 2000, with a large increase in the number of people older than 85. There has been confirmed addition in the number of human beings not fit to care for themselves because the number of senior people keeps rising (Koisinova, 2012). Information retrieves from the 1987 National Medical Expenditure Survey indicates about 9.5 million elderly people living in the community, with Finland being added, man- aging to carry out daily tasks such as walking, housework, and self-care. About

55% of them were older than 65. As one ages, the likelihood of experiencing difficulties with daily duties rises. Among those aged 65 to 74, one in nine (11.8%) is having problems with daily duties. According to the Unfit Statistics Program (1992) and Koisinova (2012), this ratio rises to one in four adults (26.5%) who are 75 to 84 years old and to three in five adults (57.6%) over 85 years of age.

Old age typically defined as ≥ 60 years old (WHO, 2017) comes with gradual changes in physical, mental, and social aspects of their life. Physically, aging can bring about changes such as decreased muscle mass and strength, reduced flexibility and balance, and increased susceptibility to chronic conditions like arthritis and cardiovascular disease (Keller et al, 2014). Mentally, some may experience cognitive decline, including difficulties with memory and processing speed, though this varies greatly among older adults and is not a universal experience (WHO, 2019; Murman et al, 2015). Staying physically active can help reduce these challenges and promote total well-being (Wong et al, 2023).

2.2 Benefit of Gymnastics for Older Adults

Gymnastics helps in healthy wellbeing by improving balance and coordination in older adults. The benefits of gymnastics for seniors are that it promotes balance and coordination (Allstargymnastics, 2023). Gymnastics for the elderly is a risk, with easy intensity aerobic workout that uses most of the body's muscles in a manner consistent with daily activities, supporting the load between the left and right movements (Udzakirah et al, 2019).

As we age our balance and coordination naturally reduces, this may lead to falls and other injuries. World Health Organization studies have shown that by participating in gymnastics, seniors can improve their balance and reduce their risk of falling and other accidents (Allstargymnastics, 2023). According to Angeline Albert, Program pays attention while performing exercises like "finger

and thumb tapping" and "nose and ear grabbing," which is stated by Hunters Down Care Home staff. Ten of the fourteen seniors who took part showed physical progress and gained the ability to eat and drink on their own (Angeline, 2017). Following these exercises, 12 out of 14 residents were able to dress, play games like bingo, and manage silverware with improved hand-eye coordination. Additionally, staff verified that eight out of the fourteen were moving more steadily and effectively. (Angeline, 2017). After such workouts, a large majority of residents could use their hands better in eating, wearing their clothes, and doing games playing like bingo. Staff also confirmed 8 of the 14 were steadier on their feet and were moving better (Angeline, 2017). This is much more benefits older adults who participate in gymnastics can get from balance and coordination exercises.

Secondly, promoting flexibility and mobility is another benefit of gymnastics for seniors. Many seniors suffer stiffness and joint pain, which make it hard to perform daily tasks. Gymnastics can increase one's range of motion, reducing pain and stiffness (Allstargymnastics, 2023). Engaging in gymnastics routines stretches and strengthens various muscle groups, leading to greater flexibility throughout the entire body. Gymnastics training for adults involves a range of dynamic movements and holds, which gradually lengthen and strengthen the muscles and ligaments over time. Increased flexibility helps in daily activities, like reaching, bending, and lifting, making these movements smoother and more efficient (Synergygymnastics, 2024). Furthermore, routine exercise improved mood in elderly, significant improvements in joint mobility, as well as joint weight loss (Fiodorenko Dumas et al, 2015).

Strengthening muscles and bones is another benefit older adults enjoy when they participate in gymnastic activities. Seniors that participate in gymnastics can strengthen their muscles and bones, which is important for overall health and well-being (Allstargymnastics). This can be achieved through Recreational gymnastics, which incorporates aerobic dancing with quick turns and little ef-

fects, light jumps, mixed strength, agility, and stable training, which are different or effective like gym training. According to Kirsti et al. (2020), the goal is to promote total wellbeing rather than avoid falls or fractures. The risk of osteoporosis, a disorder that results in weak and brittle bones, is subsequently decreased (Allstargymnastics, 2023).

A positive cardiovascular health is the fourth benefit older adults enjoy when they engage in gymnastics. Gymnastics routine physical activities will improve physical fitness, that indirectly benefits heart function, reduces blood pressure, and limits the chance of fat buildup on blood vessel walls, maintaining the suppleness of the walls. Moreover, to maintain its pumping function, the heart muscle is instructed to contract. Exercise significantly lowers both the diastolic and systolic blood pressure. (Kazeminia et al, 2020).

Older adults benefit from it because it helps in reducing the risk in having diseases of the heart, cardiovascular and stroke problems (Allstargymnastics, 2023). These activities promote healthy blood circulation, enhancing oxygen flow to muscles and tissues and building endurance over time. Engaging in gymnastics improves the function of the heart, making it more efficient at supplying blood and managing stress on the circulatory system (Synergygymnastics, 2024)

Gymnastics is likely favorable in boosting cognitive function in seniors. It helps them to learn fresh skills and techniques. During these activities, seniors' memory can get better, Functioning, and overall cognitive function (Allstargymnastics, 2023). Studies have proven that learning new and advanced gymnastics activities can provide older adults "sharper brain. Studying fresh activities with regular difficulties with the brain which supports neuroplasticity that adds cognitive health with an improving memory, Close care and thinking. Furthermore, with a complex functioning, sequences associated with gymnastics needs Leadership, stability and spatial awareness, it might help to better or improve cognitive function (TheSporting, 2023).

Finally, gymnastics assists to improve mental health in senior adults. Like all exercise, gymnastics can boost the mental health of seniors by increasing cognitive function and activities, limiting anxiety and stress, which helps in developing one's confidence (Allstargymnastics, 2023). In accordance with practical data collected by Ange-line Albert regarding improvement in cognition, the senior people may have challenges with cognitive limits, with a huge number in the developing phase levels of dementia (Angeline, 2017). Later which the classes began, the manager of the care home said: "Sometimes it might be different to recall a specific lesson whereas previously very challenging retriev- ing anything." (Angeline, 2017). Moreover, attending gymnastics sessions is a great way to regularly interact socially and make new friends (Allstargymnas- tics, 2023).

2.3 Gymnastic Exercises for Older Adults

Older adults are in different age groups, with various stages of fitness and health conditions. Furthermore, it is valuable to control activities according to personal needs and wants. Gymnastics can be designed to ensure safety and satisfaction of older adults. It is also important that older adults adhere strictly to guidelines of physical activities that have been mated out by relevant health organizations (WHO, 2020).

Studies from the World Health Organization's "Global suggestion on Health Activity for Physical for," persons 65 and over could perform above two days of muscle activities (such as strength/resistance training) and 150 minutes of moderate or 75 minutes of vigorous intensity cardiovascular workouts each week.

When it comes to better functional ability in older adults with frailty, Studies show that the US Department of Health and Human Services (HHS) suggests

different exercise with training which includes balance training, muscle improvement (at least twice a week) (Old school trainer, 2019), and aerobic activities with least moderate hard performed three or more times a week for 25 to 40 minutes per session between three to five months (Physical Activity Guidelines Advisory Committee, 2018; Mikel et al, 2021).

2.4 Considerations for Older Adults Interested in Gymnastics

Understanding the body is the first consideration for older adults interested in gymnastics. Seniors should pay more attention to their bodies and by pushing beyond their body limits. It is important to identify any discomfort or pain and discuss it with a healthcare professional. Modifying exercises or taking breaks, when necessary, allows for a safe and enjoyable gymnastics experience (Elina et al, 2012).

Seeking professional guidance is the second consideration that must be taken for older adults interested in gymnastics. It is crucial for seniors to seek guidance from a qualified gymnastics instructor who specializes in working with older adults. A professional can design a safe and tailored exercise program that suits individual fitness levels and addresses any underlying health concerns (Elina et al, 2012). A professional can also provide you with expert guidance on proper technique, form, and progressions. This is especially important when learning new skills, as it can help you avoid injuries and ensure that you are practicing the correct technique (Daleckistrength, 2024).

Starting slowly and progressing gradually is a vital consideration that must be considered by older adults interested in gymnastics. Seniors who are new to gymnastics should start slowly and gradually increase the intensity and difficulty of their routines (Daleckistrength, 2024). When starting out in adult gymnastics training, it's important to focus on mastering the proper technique for each movement, rather than trying to do everything at maximum intensity.

Proper technique will help you perform movements more efficiently and safely. Start with basic movements and work on mastering them before moving on to more complex movements (Daleckistrength, 2024). This helps prevent injuries and allows the body to adapt to the demands of gymnastics overtime.

Warm-up and Cool-down is a positive consideration for adults interested in gymnastics. Old adults should always start their gymnastics sessions with a proper warm-up routine to actively make the muscles and joints for physical activity. The purpose of a warmup activity is to stimulate and prepare the human body before exercises. Typically, a warmup exercise is made of gentle activities that limit intensity. The main reason of a warmup activity is helping the body temperature function normally, which will warm up your muscles. (Daleckistrength, 2024). The warmup might also improve and better blood flow and flexibility, which may cause mild perspiration, but it shouldn't leave you feeling exhausted or fatigued.

Ending the active session with a cool down relax period will include gentle stretching exercises which will help prevent muscle soreness and promote flexibility. (Daleckistrength, 2024). Known to be the recovery phase, cooling down totally entails little intensity which slower paced exercises. It also allows the blood pressure, respiration, and heart rate to gentle return to normal. The cool down helps the body recover from activity and enables blood to flow from your muscles back to your heart. This will lessen the likelihood of painful muscles following exercise.

Combining exercises for optimal results is the fifth consideration that must be taken into consideration for older adults interested in gymnastics. While gymnastics can offer numerous benefits on their own, combining it with a well-rounded exercise routine is highly beneficial. Old adults should consider incorporating activities like strength training, aerobic exercises, and balance exercises alongside gymnastics to achieve optimal results. (Daleckistrength, 2024).

Staying consistent is the final consideration for older adults interested in gymnastics. Gymnastics training might be painful sport due to its needs for tolerance and Continuity. During this physical process, it might require patients to see positive results. With continuous efforts in training and practice, a smart lifestyle will gradually improve your strength, flexibility, and technique. Consistency is key to reaping the benefits of gymnastics for seniors. Engaging in gymnastic exercises regularly, ideally several times a week, ensures that the body and mind continue to adapt and improve. Consistency helps maintain physical fitness, flexibility, and cognitive function in the long run. (Elina et al, 2012).

2.5 Preparation and Equipment Needed for Gymnastic Activities for Older Adults

Many physical activities are supervised by professionals. Most senior citizens include walking and physical activity in their daily routines.

Daily routes, spaces that promote mobility, and appropriate facilities are crucial as people age (Elina et al, 2012).

When planning outdoor gymnastic activities for elderly in Finland, it is pertinent to consider things such as the health history of participants which will clearly determine which activity a participant is allowed to participate in. It is also important to consider the weather. Finland has strict principles on carrying such events especially during winter seasons which promotes positive fitness, it is important and educative for older people to participate in physical indoors activities often, even if they cannot walk outside due to cold climate. (Elina et al, 2012).

Participants will need kits that are weather friendly to effectively participate in the outdoor gymnastic activities. As regards equipment, gymnastic activities

for older people do not necessarily require the use of special gymnastic equipment. Weather friendly kits, chairs and floor mats are good enough equipment for older people to participate in any outdoor gymnastic activities.

2.6 Suitable Gymnastic Activities for the Elderly

2.6.1 Warming Up Activities and Stretching

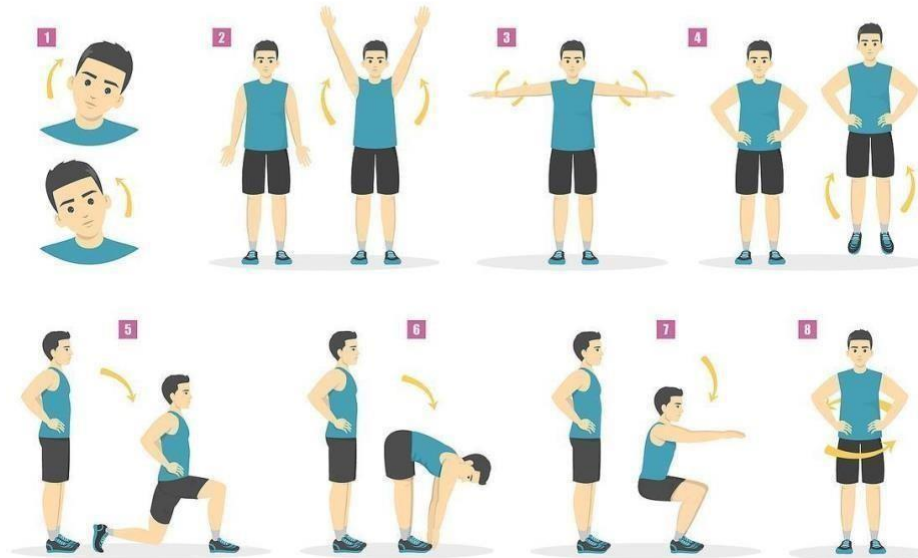
The following warming up activities and stretching when performed consistently, Helps to better the lifestyle and physical ability among the elderly.

Table 1: Warm-up and stretching and guidelines.

Warm-up and stretching	Guidelines on how to perform Warming up and stretching
Neck rotation	Maintain a straight head and neck posture. Turn the head slowly to the right. Give it two seconds to relax. Now turn the head to the left. Keep the head in place for two seconds. This should be done ten times. (Harsha, 2024.)
Neck side bend	The head should remain above the right shoulder. Hold the head for two seconds or so. Tilt the head slowly in the direction of the opposite shoulder, then hold it for two seconds. (Harsha, 2024.)
Shoulder Circles	Roll your shoulders in a smooth motion up, back and down. Repeat 10 times (Harsha, 2024).

Arms forward and up	Straighten both arms and raise them towards the ceiling. Then drop your arms down and forward. Calm down. Ten times over, repeat (Harsha, 2024).
Arms Out to the Side and Up	Bring your upper arms close to your ears by raising both arms straight out to the side and upward towards the ceiling. Relax and bring your arms down to your sides. Ten times over (Harsha, 2024).
Trunk side Bends	Straighten up and bend to the other side of the trunk after going to the floor on one side bowed. Make sure you have a comfy arm at your sides. Avoid leaning forward. On each side, repeat ten times. Harsha (2024).
High-Stepping	Raise your knee to your waist and then lower it. Switch up your legs. For every leg ten times (Harsha, 2024).
Heel Lifts	Lower your body back to the floor after raising high on your toes. Make time for this exercise. Repeat ten times. When you feel comfortable performing this exercise hold your arms straight ahead and at shoulder level. Harsha (2024).

WARM-UP EXERCISES



The picture is from fitness charts.

Figure 1. Warm-up Exercises

2.6.2 Head and Neck

Turn the head slowly to one side as much as it feels comfortable while keeping the head forward. You should feel a stretch on the other side of your neck.

(Repeat slowly with the opposite side after holding for 2 seconds and then gently return to starting area. Slowly bend the head towards one shoulder as far as it feels comfortable while keeping the head forward. This will make the opposing side of the neck extend. After 2 seconds of holding, return to the beginning. Continue to the opposite side. Neck Bend: Lower the chin as far as it feels safer while sitting upright in your chair with your shoulders back and down. You will experience a strain in the nape of your neck. Press lightly on

the back of the head with your hands to extend the stretch. Hold for the designated amount of time (Morelifehealth, 2025).

2.6.3 Upper and Lower Limbs

Upper limbs: Let the elbows bend palms facing each other at a 90-degree angle. Raise the arms till your fingers point up at the ceiling. As if you were squeezing a big ball between the elbows, move your arms and forearms toward one another. As in prayer, place your hands together in front of you, but extend the elbows out to the sides. Put your hands together. Push the elbows against your ribs and lock them there (UD Medicine, 2025).

Lower limbs: Keep the arms out to the sides will improve balance and strengthen the arm and shoulder muscles. Imagine yourself standing in the middle of a clock, if you have space to do so. At 12 o'clock, raise your right leg just a little bit off the ground, then move it to 1 o'clock so that your foot touches the floor. After that, raise your leg and land at two o'clock. Continue landing at each number until you reach six o'clock. Verify that you are now behind the right leg (UD Medicine, 2025).

Return your right leg to 12 o'clock and keep it down at 5, 4, 3, 2, and 1 o'clock to return the semicircle you just completed. Both the moving leg and the supporting leg should engage the muscles on the outside of the hips and thighs. Repeat with the left leg from 12 to 11, 10, 9, etc., during which you stand on the right leg. Ten times over, repeat (UD Medicine, 2025).



The image was taken from Max Rehab
Figure 2. Prospection with balance

2.6.4 Vertebrae

Bend your knees and lie down on the floor or bed. The hips are neutral. Raise the robot as far off the ground as is comfortable. After pausing, go back to the beginning and repeat ten times (Eldergym, 2024a).



The image was taken from Eldergym
Figure 3. Bridging Exercise (Eldergym, 2024b).

2.6.5 Bust

Ensure safety and upright positions. Then put your hands behind the head and raise your arms. Pull your shoulders and neck back and take a deep breath. Handle gently, exhale, be comfortable and continue for around three more ses-



sions (Elder- gym, 2024b).



This image was taken from Eldergym. Bust Exercise.

3 PURPOSE AND OBJECTIVES

Purpose

The purpose of the project was to describe a day gymnastic activity for the elderly in Attendo Siltalanpuisto care home in Harjavalta.

Objectives

The objectives are to describe suitable gymnastic activities for older adults and describe a day of gymnastic activities for older adults in Attendo Siltalanpuisto care home.

4 METHODOLOGY AND PROJECT IMPLEMENTATION

4.1 Target group

The target group of this project are the older adults that are residents in Attendo Siltalanpuisto in Harjavalta, Finland. These older adults in Attendo Siltalanpuisto consist of individuals who require various levels of assistance due to age-related conditions, including mobility challenges, memory impairments such as dementia, or chronic illnesses. Many of them are seniors who can no longer live independently and benefit from the structured environment and professional care services provided at the facility.

4.2 Methodology

The agile project strategy proves to be the most effective for the project, because it allows for modifications at any point during the project's lifecycle. To constantly improve a project, the agile methodology places a strong focus on

cross-functional team cooperation. It helps teams navigate the stages of project planning, execution, and evaluation by breaking projects down into manageable pieces. It is meant to be a more flexible and successful method of launching products onto the market (Wrike, 2023).

The ability to move fast or fluidly is referred to as agile (Chen et al., 2023). When compared to alternative project techniques, this approach may allow the team to adapt more rapidly and easily. The Agile technique, which works in continuous sprints of project planning and execution, allows you to continuously improve and modify your plan, scope, and design throughout the project (Chen et al., 2023). Requirements, design, development, testing, deployment, and review are the six phases of the Agile life cycle.



Figure 5. Agile Methodology; the life cycle of a product from inception to evaluation (Sarah, 2024)

4.3 The stages of the project

The six stages of the project are in line with Agile methodology.

Table 2. Project Timetable according to Agile Methodology

Agile methodology stages	Task	Date
Requirements	Determine and familiarize yourself with the topic, including research Resources and publications.	April to June 2024
Design	Organizing and gathering all the data. approval from Samk.	December 2024
Development	putting the idea into practice and create the brochure.	December 2024
Product	The nurses will be	January 2025
	educated on how the material will be beneficial to clients	
Deployment	product delivery to the customer. The final report has been prepared.	January 2025
Review	Addressing and resolving any issues that may arise after deployment.	February 2025.

4.3.1 Requirements

At this point, the author created project specifications and specific objectives. Plans were created that included all the project's necessary resources,

dates, and activities. The challenges included conducting experiments, creating themed spaces, and creating riddles.

4.3.2 Design

The design stage happened to be one of the most essential phases of the project. It involved literature review and standardized project planning to come up with a well-organized day of gymnastic activities for the older adults at Attendo siltalanpuisto.

To ensure the complete development of the design stage and to gather up-to-date information on gymnastic activities for older adults, the author did data search from various reliable sources such as PubMed, Google Scholar, and Theseus. The search for a total literature was carryout by using suitable keywords such as “Elderly Gymnastics,” “Benefits of Gymnastics,” “Elderly Care Home,” and “Gymnastics considerations for older adults.” The author has presented the literature retrieval process in tabular format which was done according to the university required standard. The literature review was divided by the authors into included and excluded literature based on certain criteria as shown in table 3 below.

Search words: Gymnastics for seniors “AND” Care Homes in Finland “AND”
Gymnastics activities for the older “AND”

The author uses search terms such as: (“Care Homes for elderly in Finland”
OR “Stretch benefits for elderly”, and Flexibility in Elderly in Finland).

The databases used include PubMed, Google Scholar, Theseus and Science direct.

Table 3. Literature Retrieval Process.

Database	Keywords	Results	Approved
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PubMed	Gymnastics for the elderly Benefits of physical activities for older adults.	141 809	5 3
Theseus	Gymnastics activities for older adults	143	1
Google Scholar	Benefits of Gymnastics	29, 100	5

Table 4. Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
Publications, books, and articles related to the topic.	Published articles, and articles related to the topic published before 2019.
Publications and articles that are free to use.	Publications and articles that are expensive or require charges.
Publications and articles in English or Finnish.	Publications and articles in other languages.
Peer-reviewed publications, books and articles.	

4.3.3 Development

In this stage, the author developed the product needed to be carrying out a day of gymnastic activities for older adults in Attendo Siltalanpuisto from the well-researched literature. This was done in the form of a brochure. The brochure contained all the gymnastic activities that are suitable for older adults in sequence of how they should be performed and the timeframe needed for performance. In preparing the brochure, the author ensured that each image of a gymnastic activity aligns with how it should be performed and the benefit that will be derived.

Initially, the most recent version of Microsoft Word 365 was used to create the brochure. This is because it makes changes throughout the project simple. The brochure's legibility and clarity were enhanced by the selection of the font type (Times New Roman) and font size (12). The brochure was visually appealing and captivating due to the usage of typefaces, images, and headers. The booklet was easy to read because it was written in straightforward English.

The final product will be handed in a digital format. This is because digital materials are not limited by location and accessibility is much easier.

The brochure was made to work with a wide range of electronic devices, including desktops, laptops, tablets, and cell phones.

4.3.4 Product.

In this stage, the guide will be handed to the care home for them to implement the gymnastic activities for older adults to ensure they comply with requisite criteria. The product will be handed over to the unit so nurses will do the activities as design for future events like gymnastic activities for the older in Attendo Siltalanpuisto as contained in the brochure.

5 EVALUATION OF THE PROJECT

5.1 Evaluation

The methodical area of contextual knowledge and factual data on an intervention is the end evaluation. To assess the program's conception, implementation, and efficacy, it gives reliable answers with the questions as follows: If, why, who, and how (Chen, 2015). To the goals of the project's purpose, involving the techniques and methodology,

The author worked hand in hand with the supervisor to get vital information. This information was gathered in the form of internet links with the aim of finding out how impactful the gymnastic activities were as well as providing vital information that will help to enhance the living standard for the elderly as well as making day to daily life healthier and more lovable, Hazards identified as regards the project were appropriately dealt with by the author to reduce their impact on the project. Detailed inquiries about the health status of the participants were gotten from the nurses at the care home. The reason for this was to ensure that these exercises were tailored to suit the participants at the care home with adequate consideration of both their physical and mental state to evade any challenge that comes with health. The information I got from the care home was vital because it ensured that the project was of standard quality and without flaws of any kind.

5.2 Ethical considerations

The author explained the advantages of gymnastics for senior citizens and how to complete each exercise while strictly adhering to the rules of ethics that regulate thesis writing. "Universities and universities of applied sciences should ensure that their students are well versed in the principles of the responsible conduct of research and that the teaching of research integrity is integrated into their graduate and postgraduate programs which are backed

by reliable data, declared. The project's planning, literature search, implementation, and evaluations were all completed in compliance with the responsible behavior guidelines.

According to the ethical criteria, the author made sure that plagiarism was avoided, that originality was maintained, and that proper reference was used in compliance with copyright laws and responsible research practices. The writers whose books, papers, or publications were used were duly acknowledged and respected. The author completed this thesis using only credible and scientific sources.

Though, like other research work in this field, the thesis is unique from the rest in that ideal gotten from research transcended mere presentation to creating a brochure that will aid in giving life to what is contained in the thesis. This thesis will further expand the frontier of knowledge by becoming a basis for consultation for people who will conduct research in the same or similar field. Though short-term gymnastic activities for older adults are important, long-term gymnastic activities are better, because it will enable older adults to attain all the benefits that are enshrined in gymnastic activities, which will invariably improve their mental, social and general well-being

The thesis meets the obligational principles of reliability, honesty, respect, and accountability (National board on research integrity, 2023). To achieve efficiency, the author ensured the right usage of project design, methodology, and quality resources agreement from SAMK.

5.3 Challenges

The initial trial of the exercises displayed encouraging outcomes. However, the author had this drawback during the implementation phase. Due to diverse physical and mental health conditions, participants were not able to carry out the gymnastic activities in synergy as intended. For example, some activities

which required standing for effective performance were not done by some participants due to their physical state. So, it was impossible to get the impact of all the gymnastic activities from all the participants.

6 DISCUSSION

This study shows the Nordic focusing on elderly care in nursing homes across Sweden, Norway, and Denmark used a randomized trial design to assess the effectiveness of individualized physical and daily activity interventions. (Connelly DM,1996)

The study involved 322 residents who participated over a three-month period. The intervention was carefully designed and implemented under the supervision of physiotherapists and occupational therapists. (Lahav,2024)

The main goals of the intervention were to improve muscle strength, mobility, balance, and self- confidence among the residents. (Rydwik E,2004) The physical activities included both structured exercises and personalized daily routines, ensuring that participants engaged in movements that were both meaningful and manageable for them. (Nelson ME,2007) The results of the study showed statistically significant improvements in the intervention group compared to the control group. (Lahav,2024) Residents in the intervention group demonstrated greater independence in performing Activities of Daily Living (ADL), such as dressing, walking, and personal hygiene. In addition, they showed enhanced balance and a higher overall level of physical activity. (MacRae P,1996) One of the most physical activities is walking outdoors, which occurs frequently and is led solely by nurses. There is no variety in the types of exercises provided, and no indoor or strength-based activity is included. Therefore, from the control group studies done in Nordic nations, there is an averagely low level of gymnastics being done in Nordic as compared to Attendo Siltalanpuisto, there is much improved physical strength among the elderly. (Forster A,2009)

These outcomes are particularly relevant when considering projects like “A Day of Physical Gymnastic Activities at Attendo Siltalanpuisto”, as the Nordic study provides strong evidence that regular, guided physical activities especially when adapted to individual needs can lead to measurable health benefits for older adults in nursing home settings. The findings support the idea that incorporating daily physical activity programs not only improves physical functions but also boosts residents’ confidence and quality of life, thus adding significant value to initiatives promoting physical engagement in aged care. (Eldergym,2024).

While the study focused on the short term (a day of gymnastic activities) benefits of gymnastic activities for older adults, the theoretical ideology holds that for older adults to attain to the full benefits of gymnastic activities, there is need for consistency in performance; Consistency is key to reaping the benefits of gymnastics for seniors. Engaging in gymnastic exercises regularly, ideally several times a week, ensures that the body and mind continue to adapt and improve (Eldergym, 2024). Again, while the study is based on experiential knowledge, the theoretical framework work is based on general knowledge of gymnastic activities as it relates to older adults.

Though, like other research work in this field, the thesis is unique from the rest in that ideal gotten from research transcended mere presentation to creating a brochure that will aid in giving life to what is contained in the thesis. This thesis will further expand the frontier of knowledge by becoming a basis for consultation for people who will conduct research in the same or similar field. Though short-term gymnastic activities for older adults are important, long term gymnastic activities are better, because it will enable older adults to attain all the benefits that are enshrined in gymnastic activities, which will invariably improve their mental, social and general well-being (Lahav, 2024).

7 CONCLUSION

It is impossible to overstate the positive effects of gymnastics on the mental and physical health of senior citizens. The thesis has painstakingly demonstrated how gymnastics have enhanced senior citizens' well-being and decreased their feelings of loneliness. There is a lot of space for further research because the effects of gymnastics on the elderly at brief intervals were heavily highlighted. As studies can be carried out on the long-term benefits gymnastic activities will improve with a positive health and well-being of older adults. There is much knowledge that can be tapped from the field of this study as a way of improving the general well-being of older adults and ensuring longevity among the population of the elderly.

REFERENCES

Allstargymnastics. 2023. Gymnastics for seniors: what are the benefits? <https://www.allstargymnastics.com.au/gymnastics-for-seniors-what-are-the-benefits>

Angeline, A., (2017) Elderly with dementia benefit from Japanese chair gymnastics. <https://www.carehome.co.uk/news/article.cfm/id/1584481/Elderly-told-rub-your-belly-and-pat-your-head-in-Japan-inspired-chair-gymnastics>

Arene. 2020. Ethical Recommendations for thesis writing at universities of applied sciences. Retrieved on 3.5.2024, from https://www.arene.fi/wp-content/uploads/Raportit/2020/ETHICAL%20RECOMMENDATIONS%20FOR%20OTHESIS%20WRITING%20AT%20UNIVERSITIES%20OF%20APPLIED%20SCIENCES_2020.pdf?t=1578480382

Bowling, A. 2005. Aging well: Quality of life in old age. McGraw-Hill professional publishing. Berkshire.GBR

Chen et al. 2023. Hybrid Project Management between Traditional Software Development Lifecycle and Agile Based Product Development for Future Sustainability. Vol. 15, Page 1121.

Chen H. T. (2015). Practical program evaluation: Theory-driven evaluation and the integrated evaluation perspective (2nd ed.). Sage. Practical Program Evaluation: Theory-Driven Evaluation and the Integrated . . . - Huey T. Chen — Google Books

Connelly DM, Stevenson TJ, Vandervoort AA. Between- and within-rater reliability of walking tests in a frail elderly population. *Physiother Can.* 1996;41(6):304–311.

Daleckistrenth. 2024. Adult Gymnastics for Beginners: Tips and tricks for starting out. <https://www.daleckistrength.com/adult-gymnastics-for-beginners-tips-and-tricks-for-starting-out>

Source: <https://30seconds.com/health/tip/amp-18932/Free-Fitness-Charts-Printable-Exercise-Routines-Workouts-to-Help-Reach-Your-Fitness-Goals>
 Disability Statistics Program. 1992. University of California. San Francisco. Disability Statistics Abstract, Washington, DC: US department of Education,

National institute on Disability and Rehabilitation Research. Referred 23.2.2011. dsc.ucsf.edu/view_pdf.php?pdf_id=17

Elderlygym. 2024a. Lower back pain exercises for seniors and the Elderly. <https://eldergym.com/lower-back-pain-exercises/>

Elderlygym. 2024b. Chest exercises for seniors and the Elderly. https://eldergym.com/chest-exercises/#google_vignette

Elina, K. Pirjo K. Kari, K. 2012. The National Policy Programme for Older People's Physical Activity. <https://www.voimaavanhuuteen.fi/content/uploads/2016/04/OKM17.pdf>

Fiodorenko-Dumas Ź, Paprocka-Borowicz M, Małeckı R. 2015. Effects of physical activity on Fullerton test results in the elderly. *Geriatrics*. 2015; 9:211- 7.

Forster A, Lambley R, Hardy J, Young J, Smith J, Green J, Burns E. Rehabilitation for older people in long-term care. *Cochrane Database Syst Rev*. 2009;(1):CD004294.

Harsha, V. 2024. Warm-up Exercises. Content://com.android.providers.downloads.documents/document/msf%3A10001 79963.

Katey, D. 2021. Improve Balance, Control, and Coordination with These 10 Proprioception Exercises. <https://www.healthline.com/health/fitness/proprioception-exercises>.

Kazemina, M., Daneshkhah, A., Jalali, R., VaisiRaygani, A., Salari, N., & Mohammadi, M. 2020. The Effect of Exercise on the Older Adult's Blood Pressure Suffering Hypertension: Systematic Review and Meta-Analysis on Clinical Trial Studies. *International Journal of Hypertension*, 2020. <http://doi.org/10.1155/2020/2786120>

Khemapetch, S. (2016). Exercise for health in the elderly. *JOURNAL OF THE POLICE NURSES AND HEALTH SCIENCE*, 8 (2), 201–211. Retrieved from <https://he01.tci-thaijo.org/index.php/policensur/article/view/74003>

Kleinpell R., Fletcher K., Jennings B. 2008. Patient Safety and Quality: An Evidence-Based Handbook for Nurses. Referred 9.2.2011. http://www.ahrq.gov/qual/nurseshdbk/docs/kleinpellr_rfdhe.pdf

Kristi, U., Saija, K., Pekka, K., Kari, T., Harri, S. 2020. Does long-term recreational gymnastics prevent injurious falls in older women? A prospective 20-year follow-up. <https://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-020-1428-0>

Kosinova, E. 2012. Effects of 12-week gym exercise training on functional capacity among elderly adults. <https://www.theseus.fi/handle/10024/54134>

Lahav, A. et al. (2024). Physical and daily activities for residents in Nordic nursing home settings: A randomized controlled trial. Results after 3 months of intervention. Retrieved from <https://www.academia.edu/123767617>

Lubitz, J., Liming, C., Kramarow, E. & Lentzner, H. 2003. Health, Life Expectancy, and Health Care Spending among the Elderly. *The New England*

MacRae P, Schnelle JF, Simmons SF, Ouslander JG. Physical activity levels of ambulatory nursing home residents. *J Aging Phys Act.* 1996; 4:264–278.

Nelson ME, Rejeski WJ, Blair SN, Duncan PW, Judge JO, King AC, Macera CA, Castaneda-Sceppa C. Physical activity and public health in older adults: recommendation from the American College of Sports Medicine and the American Heart Association. *Med Sci Sports Exerc.* 2007;39(8):1435–1445.

NHS 2024. Upper limb exercise. Lymphoedema Service. Reference No: 6450-1 Issue date: 11/10/18 Review date: 11/10/20.

<https://step2health.com/blogs/news/25-fun-balance-exercises-for-the-elderly>.

PennState Extension. 2015. <https://extension.psu.edu/warm-up-and-cool-down>

Portocarrero, H; Ndango, G; Porri, (2013). Using interactive technology to implement activities which promote social, physical and cognitive wellbeing in senior citizens. <http://www.theseus.fi/handle/10024/69438>

Rydwik E, Frändin K, Akner G. Effects of physical training on physical performance in institutionalised elderly patients (70+) with multiple diagnoses. *Age Ageing.* 2004;33(1):13–23.

Sarah, L. 2024. What is Agile methodology? (A beginner's guide). <https://asana.com/resources/agile-methodology>

Synergygymnastics. 2024. 9 Compelling Benefits of Gymnastics for Adults. <https://www.synergygymnastics.co.uk/benefits-of-gymnastics-for-adults/>

TheSporting.blog. 2023. The Benefits of Gymnastics for Adults. <https://thesporting.blog/blog/the-benefits-of-gymnastics-for-adults>

Udzakirah, A., Riyadi, A., Nugroho, N., Annisa, R., & Pardosi, S. 2019. Pengaruh Senam Aerobic Low Impact Terhadap Tingkat Kebugaran pada Lansia di Puskesmas Pasar Ikan Kota Bengkulu Tahun.

United Nations 2009. World Population Ageing 2009. 4-23. Referred 9.2.2011.

APPENDIX 1

TYPES OF GYMNASTIC EXERCISES

Warm-up and stretching exercises

Warm-up and stretching exercises prepare the body for physical activity by increasing blood flow and flexibility.

Neck rotation is a gentle stretch that loosens neck muscles and improves range of motion.

It helps prevent stiffness and reduces the risk of injury during exercise.

Neck Rotation

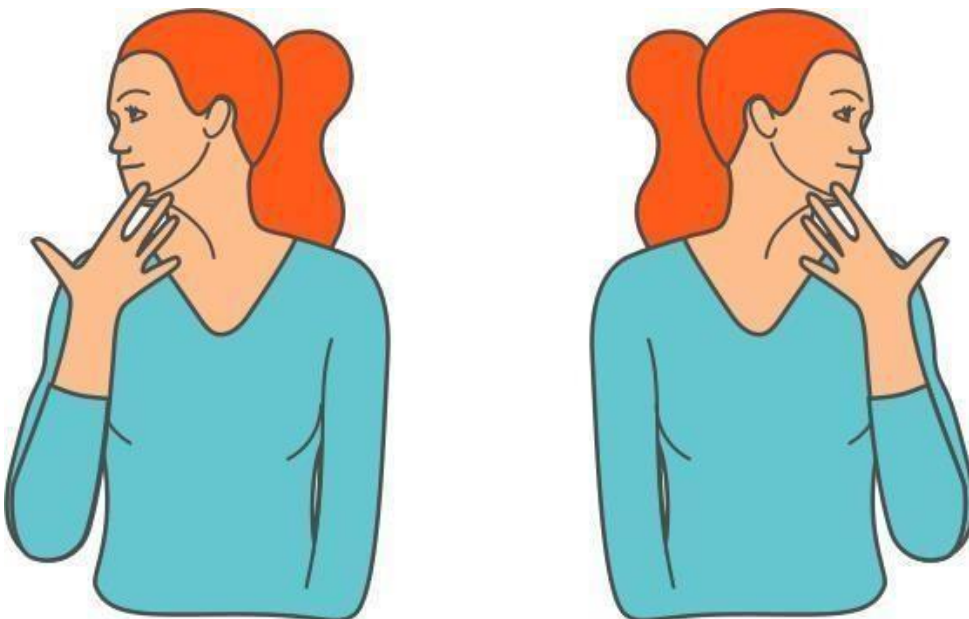


Figure 1: Neck rotation exercise

Guideline on how to perform:

With hand: With your neck relaxed, place the palm of one hand on your forehead. Use your hand to turn your head to one side (over your shoulder) until you feel a stretch in the neck muscles. Don't push through pain (Veteran Health Library, 2025).

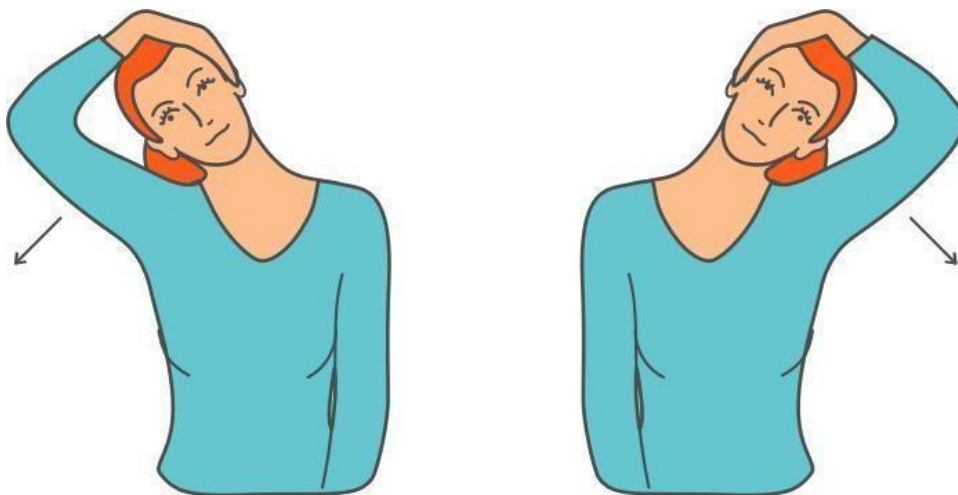
Without hand: With your neck relaxed, turn your head to one side (over your shoulder) until you feel a stretch in the neck muscles. Don't push through pain (Veteran Health Library, 2025).

Time for performance: 5 Seconds for each rotation. Repeat 5 times on each side (Veteran Health Library, 2025).

Benefit: improves the stability of the neck and its range of motion.

Neck Side Bends

Figure 2: Head rotation exercise



Guideline on how to perform: Sit or stand with your back straight and shoulders relaxed. Gently tilt your head toward your right shoulder, aiming to bring your ear close to your shoulder without raising the shoulder. Return to the starting position, then perform the stretch on the left side. Repeat 2 to 4 times on each side (My health Alberta, 2025).

Time for performance: Maintain 15 to 30 Seconds for each bend. Repeat 2 to 4 times on each side (My health Alberta, 2025).

Benefit: helps in reducing tension around the neck and the back. It also helps in improving posture.

Shoulder Circle

Shoulder circles are a warm-up exercise that loosens the shoulder joints and muscles.

They improve flexibility, enhance blood circulation, and reduce tension in the upper body.

This movement prepares the shoulders for more strenuous activities.

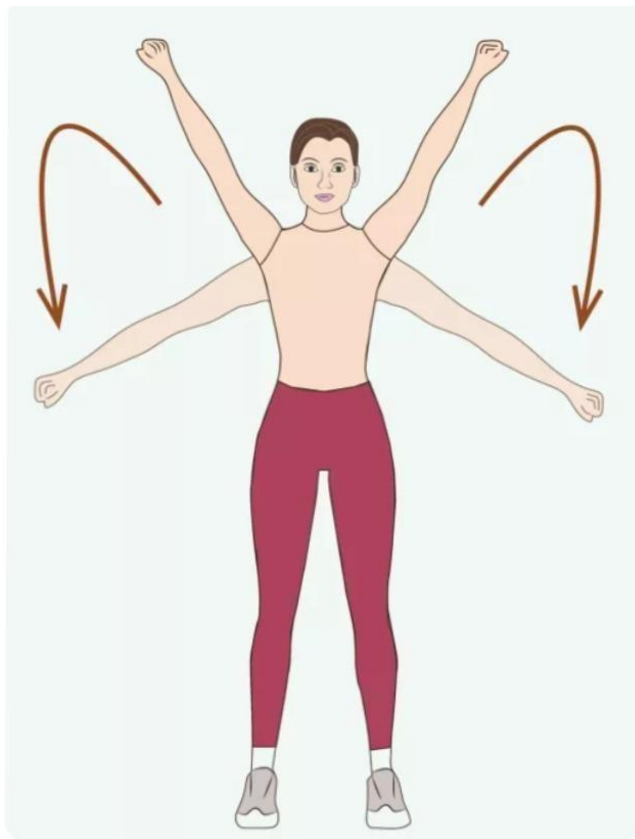


Figure 3: Shoulder Circle Exercise

Guideline on how to perform: Stand straight with your feet shoulder-width apart. Raise and extend your arms to the sides without bending the elbows. Slowly rotate your arms forward, making small circles of about 1 foot in diameter. While doing arm circles engage your core muscles, keep your back and

your arms straight and maintain a smooth and deep breathing pattern. Keep your head up and your body in a T formation during the entire exercise. Complete a set in one direction and then switch, rotating backward (Spotebi, 2025).

Time for performance: perform for 5 seconds each. Repeat 10 times (Harsha, 2024).

Benefit: it strengthens muscles, improve blood circulation, lower risk of injury and improves joint flexibility.

Arm Forward and Up

Arm forward and up is a dynamic stretch that raises the arms from the front to overhead.

It helps activate shoulder, chest, and upper back muscles, improving mobility and posture.

This movement is ideal for warming up before upper-body exercises.



Figure 4: Arm Forward and Up Exercise

Guideline on how to perform: Raise both arms straight forward and up towards the ceiling. Then lower your arms forward and down. Relax. Repeat 10 times (Harsha, 2024).

Benefit: it strengthens muscles, improves flexibility and mobility.

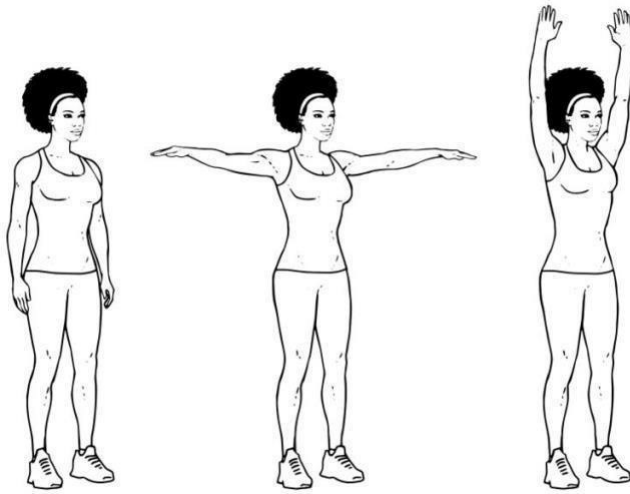


Figure 5: Arm Out to the Side and Up

Guideline on how to perform: Stand with your arms at your sides and your palms facing inward toward your hips. Keep your arms straight and raise them to the side until your body makes a “T” when viewed from the front. Slowly lower to the starting position. Repeat for 10-20 repetitions (Healthline 2023).

Benefit: it strengthens muscles, improves flexibility and mobility.

Trunk Side Bend

Trunk side bend is a stretching exercise that targets the oblique and side abdominal muscles.

It improves lateral flexibility of the spine and helps release tension in the lower back.

This stretch also enhances core stability and balance.



Figure 6: Trunk Side Bend Exercise

Guideline on how to perform: Bend your trunk to one side reaching towards the floor, then straighten up and bend to the other side. Arms should be relaxed at your sides. Do not lean forward. Repeat 10 times to each side (Harsha, 2024).

Benefit: it improves balance and stability, lower back health, posture and functional movement.

High-Stepping

This is a dynamic warm-up exercise that involves lifting the knees high while walking or marching in place.

It activates hip flexors, quadriceps, and core muscles, enhancing coordination and balance.

This movement also increases heart rate and prepares the lower body for activity.

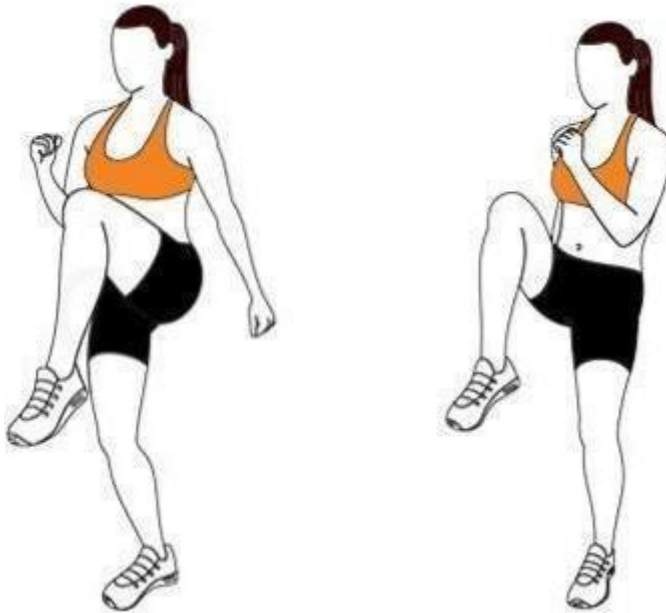


Figure 7: High-Stepping Exercise

Guideline on how to perform: Stand straight with your feet hip-width apart. Bring your right knee to the chest level swinging your arms from your shoulders front. Lower your knee letting your feet touch the ground before lifting your left knee up to repeat the movement. Raise and lower your left and right knees in an alternative fashion. Perform the action for a count of 10 on each leg (Madhura, 2021).

Benefit: strengthens muscles and bones, burns calories and improves cardiovascular health.

Heel Lift

Heel lifts are a simple exercise that strengthens the calf muscles and improves ankle stability.

They involve rising onto the toes and slowly lowering the heels back down. This movement enhances balance and supports lower limb endurance.

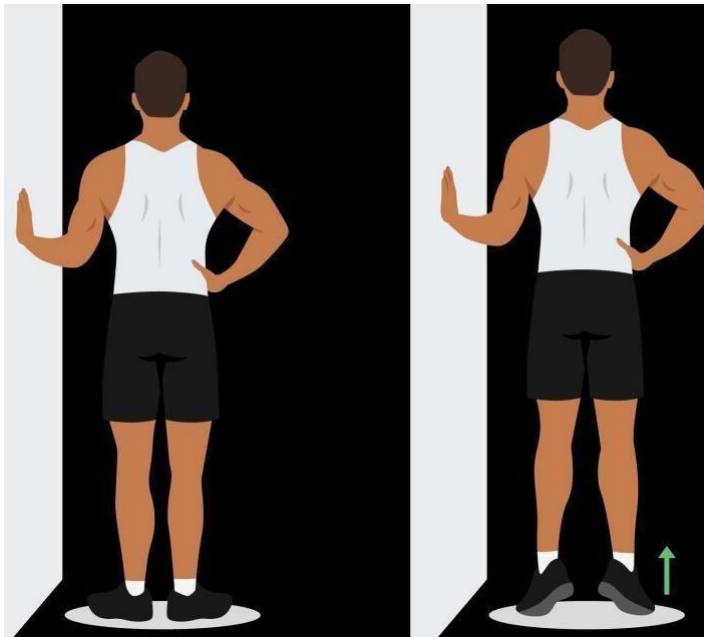


Figure 8: Heel Lift Exercise

Guideline on how to perform: Stand at the edge of a step, curb, or box with the ball of your foot or balls of both feet on the step. Use your calf muscles to press through the balls of your foot so that you raise up onto your tiptoes. Pause at the top position for 2 to 3 seconds, squeezing your calf muscles. Slowly lower all the way back down, extending beyond neutral so that your heels dip below the level of the step as deep as you can stretch. Pause again for 1 to 2 seconds, feeling the elongation and stretch throughout the calf muscle group and your Achilles tendons. Press through the balls of your feet to lift all the way back up onto your toes as high as you can as you move into the next rep (Amber 2024).

Benefit: improves calf muscles and ankle mobility.



Figure 9: Upper and Lower Limbs Exercise

Guideline on how to perform: Bend elbows 90 degrees with your palms facing each other. Lift your arms up so that your fingers are pointing toward the ceiling. Move your arms and forearms toward each other as though you were squeezing a large ball between your elbows. Put your hands together in front of you like you're praying, but with elbows out at your sides. Push hands together. Lock your elbows against your ribs and push your elbows in against your ribs (UD Medicine, 2025).

Benefit: reduces risk of injury, improves coordination and increase muscle strength.

Lower Limbs

Lower limb exercises target the legs, including the thighs, calves, and hips. They improve strength, flexibility, and circulation in the lower body. These exercises are essential for mobility, balance, and injury prevention.

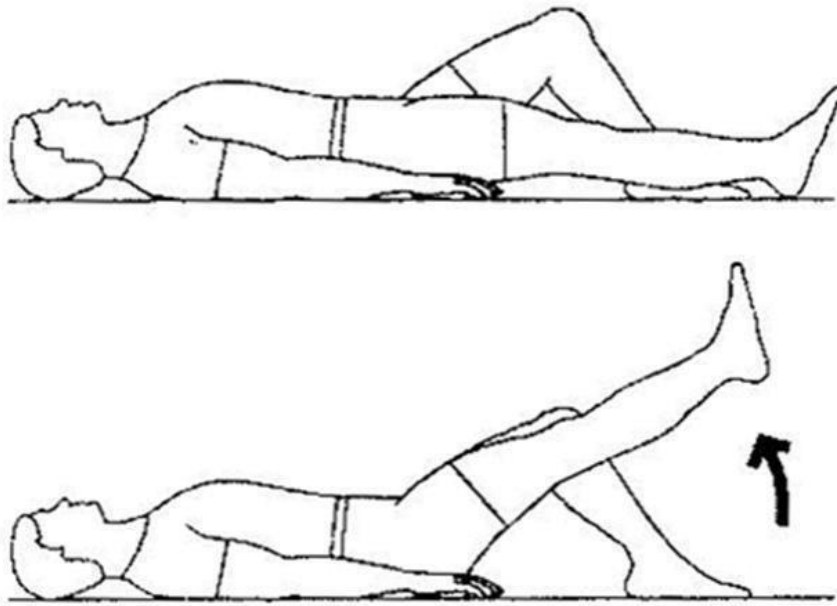


Figure 10: Lower Limbs Exercise

Guideline on how to perform: Holding your arms out to the sides will help your balance and work shoulder and arm muscles. If you have room to stand, imagine that you are standing in the center of a clock. Lift your right leg slightly off the ground at 12 o'clock and move it to 1 o'clock, letting your foot touch the ground at 1 o'clock. Then lift your leg then touch down at 2 o'clock. Keep going, touching down at each number until you get to 6 o'clock. Your right leg is now behind you (UD Medicine, 2025).

Reverse the semi-circle you've just made by returning your right leg to 12 o'clock, touching down at 5, 4, 3, 2, and 1 o'clock. You'll be using muscles on the outside of your hips and thighs on both your moving leg and supporting leg. Now stand on your right leg and repeat with your left leg going from 12 o'clock to 11, 10, 9, etc. Repeat 10 times (UD Medicine, 2025).

Benefit: it improves balance and strengthens the bones

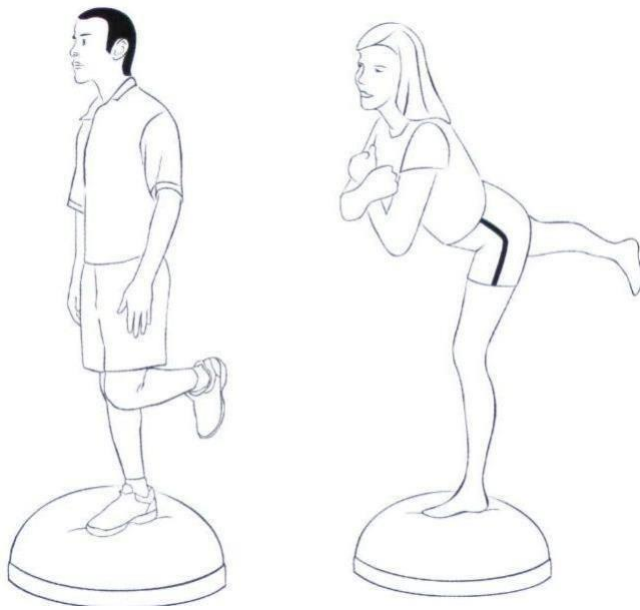


Figure 11: Proprioception and balance Exercises

Guideline on how to perform: Stand with your feet hip-width apart and your hands on your hips. Shift your weight onto your left foot and lift your right foot a few inches off of the ground, stand in this position for 30 seconds and switch sides (Katey, 2021).

Time for performance: 30 seconds on each side. Repeat 2-3 times (Katey, 2021).

Benefit: it prevents injury, improves mobility and increases muscles tones and strength.

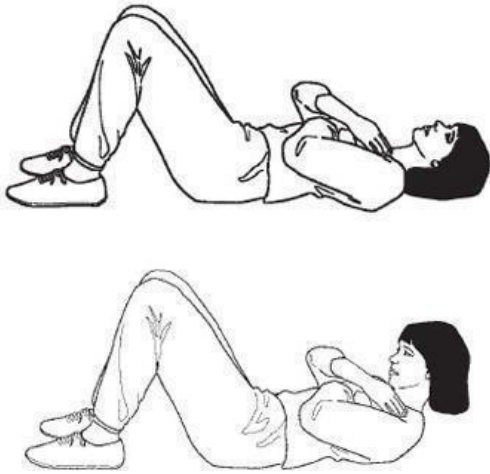


Figure 12: Vertebrae Exercise

Guideline on performance: Lie on your back with your knees bent and your feet flat on the floor. Keep your shoulders and head relaxed on the floor and tighten the muscles in your belly and buttocks. Then raise your hips to form a straight line from your knees to your shoulders. Try to stay that way long enough to take three deep breaths. Go back to where you started and repeat. Begin by doing five repetitions a day and slowly work up to 30 (Mayo Clinic, 2025).

Benefit: Reduces pains and improves posture.



Figure 13: Bust Exercise

Guideline on how to perform: Sit comfortably in your chair. Raise arms and place hands behind your head. Breathe in while bringing your neck and shoulders back. Hold briefly, then exhale, relax and repeat three more times (Eldergym, 2024).

Benefit: Improves cardiovascular health, increases metabolism and improves mood.