MINISTRY OF YOUTH AFFAIRS & SPORTS
Government of India

Ministry of Health & Family Welfare
Government of India

FIT INDIA

World Health Organization

NATIONAL HEALTH MISSION
राष्ट्रीय स्वास्थ्य मिशन

Fitness Protocols and Guidelines for 65+ Years

Goals

GOALS FOR ACTIVE LIFE STYLE

Kiren Rijiju
Minister of State (I/C),
Youth Affairs and Sports,
Govt. of India

FOREWORD

The Fit India movement, launched in August 2019, on the occasion of National Sports Day, aims to make fitness an integral part of daily life of every Indian citizen. Hitherto, the movement has witnessed wide participation from citizens across the country in various fitness related activities being promoted by the Fit India Mission Directorate.

The movement, which is in its beginning stages, has taken one of its first strategic steps to develop age appropriate fitness protocols suited to the Indian context. These protocols include simple tests and basic guidelines that demystifies what it means to 'stay fit and active'.

I am sure these protocols and guidelines will motivate us to stay rooted to an inherently active lifestyle culture that we have had in our country.

I am happy to launch the Age Appropriate Fitness Protocols and Guidelines; it is a significant step towards achieving our mission of taking the message of fitness to the masses and building a national movement.

I hope that this protocol document becomes a handy tool for our citizens and key stakeholder institutions for the movement, not only to get themselves tested on fitness levels, but also serve as a developmental tool to improve your fitness levels and cultivate an active lifestyle.

Harsh Vardhan
Minister of Health and Family Welfare, Govt. of India

FOREWORD

India faces a double whammy on the disease front: lifestyle diseases as well as communicable diseases. It is imperative that we prepare and plan to tackle both of them to secure a strong and sustainable future for our country. It is with this vision that our Hon'ble Prime Minister launched the Fit India Movement last year. Change in mindset and culture change is critical towards achieving the Fit India Movement's mission of making fitness an integral part of our daily lives. Ministry of Health & Family Welfare is closely working with the Fit India Mission towards achieving this objective through appropriate policy measures and behaviour change campaigns.

Additionally, the COVID-19 pandemic has brought increased focus on the need to adopt sustainable practices and get back to the active lifestyle and traditionally healthy diet that has been a part of our culture since ages. It is therefore, the right time for Fit India Movement to spread awareness about the importance of physical activity and nutrition as fundamental pre-requisites to develop a strong immune system, healthy mind and body.

Keeping this aspect in mind, we realised the need for developing a standardized framework to help us define and measure the fitness of every individual. It is in this context that an expert committee was constituted to develop Age Appropriate Fitness Protocols and Guidelines for our vast population.

I am happy to launch Age Appropriate Fitness Protocols and Guidelines which the Ministry of Health & Family Welfare has jointly developed with Ministry of Youth Affairs & Sports.

I am sure that these Protocols and Guidelines will pave the way towards improved awareness about our fitness levels as well as motivate us towards adopting age-appropriate exercise and yoga asanas as part of our daily lifestyle. That would be a big step in improving the fitness level of our citizens and thus moving towards a fitter, healthier and prosperous India.

I wish all the success to every citizen in achieving an ideal fitness level.

Ramesh Pokhriyal Nishank
Minister of Human Resource Development, Govt. of India

FOREWORD

The culture of sports and fitness farms its roots right from early childhood. 'How to Live' ought to be the first pillar of formal education. This involves teaching and practicing the art of taking care of one's body and health daily. Schools have to be the first formal institution after home where physical fitness is taught and practiced. They have to play very active role if sports and Fitness and teacher community to be taken as seriously as academics by our student.

Ministry of Human Resource Development has been actively working with the Ministry of Youth affairs Sports to achieve this vision for our country. The mission is to encourage every child to stay fit and play any sport of their choice.

I am proud of the fact that we have already launched a series of initiatives for school children as part of the Fit India Movement These include Fit India School Week, Fit India School Certification and Fit India Active Day Series which was a specially designed series to take care of children's physical and mental health during the lockdown period. Around 2.5 Lac schools have registered for the Fit India School Certification which I am sure will go a long way towards developing an education system in the country which looks at sports and fitness as an important enabler for the growth and development of our children.

As a next step, I am happy to launch Age-Appropriate Fitness Protocols and Guidelines. The protocols and guidelines will enable Physical Fitness Assessments to be conducted by schools and parents to monitor and track the fitness and health indicator of each child as per the Khelo India battery of tests for Class 1-3 (5-8 years) and Class 4-12 (9 to 18+ years). I hope that this protocol document becomes a handy pool for our Schools, Physical Education Teachers and all other stakeholders of our education system.

Ravi Mital, IAS
Secretary – Sports
Ministry of Youth Affairs
and Sports, Govt. of India

FOREWORD

Fit India Movement is a people centric movement. Under the Fit India Mission, we plan to make a behavioral change for adoption of active lifestyle.

In view of this, the Ministry of Youth Affairs and Sports is launching the Age Appropriate Fitness Protocols and Guidelines. The protocols and guidelines have been designed in a way as to enable citizens to test themselves on various parameters that define fitness, as well as simple guidelines that will ensure 30-60 minutes of moderate-to-vigorous daily physical activity. The protocols and guidelines, prepared through consultations with a wide range of experts, will facilitate our journey towards increased awareness as well as adoption of physical activities as part of our daily lives.

I look forward to working closely with various stakeholders in the coming days towards wider dissemination and use of these protocols and guidelines.

Preeti Sudan
Secretary, Ministry of Health and Family Welfare, Govt. of India

FOREWORD

In the present times with the changing demographic profile and disease burden and rising health care costs on account of non-communicable and chronic diseases, it's critical to move towards the delivery of a more holistic comprehensive primary health care. For primary health care to be comprehensive, it needs to encompass the preventive, promotive, curative, rehabilitative and palliative healthcare with a strong emphasis on Wellness. This amplified focus on wellness, its preventive and promotive aspects of healthcare have multiple benefits, especially in the times of COVID-19 pandemic when people are advised to stay at home and take steps to remain physically and mentally fit

Last year, our Hon'ble Prime Minister. launched the nationwide

"Fit India Movement" to encourage people to remain healthy and agile by including physical activity and sports in our daily lives. Fitness is an integral part of maintaining a healthy life as it impacts not just our physical well-being but our metal well-being as well.

The Ministry of Health and Family Welfare has been working closely with the Fit India Mission to increase awareness among the masses on adopting a physically active and healthy lifestyle especially through their Health and Wellness Centres.

These Age Appropriate Fitness Protocols and Guidelines have been developed for three age groups (1) 5-18 years (2) 18-64 years and (3) 65 years and above jointly by both the ministries. I urge everyone to take steps towards reaching out to its various stakeholders and ensure that these protocols and guidelines are widely disseminated and put into action.

As these Fitness Protocols and guidelines are being launched at a very apt time and scenario. I am confident that this initiative will be a very useful resource and will go a long way towards ensuring a healthier India!

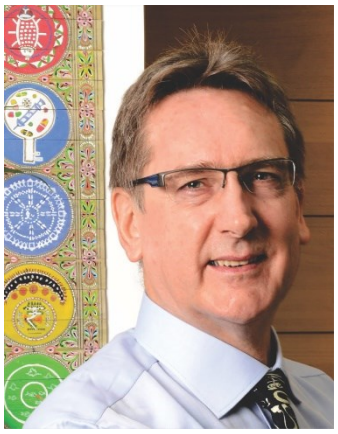
MESSAGE

Sandip Pradhan, IRS
Director General
Sports Authority of India

Sports Authority of India is committed towards actualizing the Hon'ble Prime Minister's vision for making fitness an integral part of daily life of every Indian citizen. As we set out on this journey towards realizing this vision for our country, it was realized that it was important to define fitness and develop some simple and easy fitness protocols and guidelines that any common citizen could refer to.

In view of this, an expert committee was constituted by the Ministry of Youth Affairs & Sports from relevant fields to evolve Age Appropriate Fitness Protocols and Guidelines. The document, while looking at global best practices, is contextualized to the Indian context and easy to adopt.

In the coming days, Sports Authority of India intends to develop easy to follow Information, Education and Communication Materials that will facilitate easy adoption of these protocols and guidelines by our citizens.



Dr. Henk Bekedam
World Health Organization
Representative to India

MESSAGE

Physical activity is important at every age. Apart from major health benefit, Physical activity has numerous other social, environmental and economic benefits and is intrinsically linked with the achievement of the Sustainable Development Goals. The Global Action Plan for Noncommunicable Disease which is endorsed by United Nations General Assembly, sets a goal of a 10% reduction in levels of physical inactivity by 2025 along with other targets to prevent premature mortality.

The Fit India Movement, a national-wide movement, that promote physical activities and sports in daily lives is a well-timed opportunity to increase the awareness at the community level with provision to increased access to fitness services.

The Age appropriate protocols and guidelines developed by Fit India Mission, Ministry of Youth Affairs and Sports are comprehensive and aims to promote physical activity in multiple settings. These guidelines are a step forward to create active people and societies by encouraging physical activity among people of all ages and abilities.

WHO India sincerely believe that Fitness Protocols and Guidelines will help in measuring and improving the physical activity level at all levels. We appreciate the efforts of Fit India Team in drafting much needed country appropriate physical activity /fitness guidelines.

Dr. K K Deepak
Chairman, Expert Committee for development of Fitness Protocols

MESSAGE

Physical Fitness is a necessity to enable us to perform and carry out all our activities of life. Human wellbeing is always desirable in all age groups. It has been expressed beautifully and very appropriately by our celebrated poet Kavi Kalidas.

'शरीरमाद्यं खलु धर्मसाधनम्

(*Kumārasambhava,* Kālidāsa) [5.33]

It means that the body is the foremost medium to perform Dharma (duties).

If we are healthy and physically fit, we can perform our responsibilities effectively- be it personal, social or official. Physical fitness is natural and comes easy way. Each one of us can enjoy good physical fitness provided one pays attention to it on regular basis towards achieving set goals.

Maintaining and improving physical fitness is a simple process to practise. One can remain physically fit throughout to enjoy a meaningful life. Human body is like a machine which keeps on working efficiently. However, like any other machine it needs maintenance which can be done comfortably with a little effort.

The present *Fitness Protocols and Guidelines* for imparting and measuring physical fitness are designed towards achievable set goals which are easy, comprehensive and practical for all age groups.

Expert Committee

The following members of the Expert Committee for development of Fitness Protocols for different age groups were involved in the finalization of the fitness protocols and drafting of the document.

	Name	**Designation**
1	Dr. K.K. Deepak *Chairman of the Committee*	Prof. and Head of the Department (Physiology), AIIMS, New Delhi
2	Ms. Ekta Vishnoi	Mission Director, Fit India Mission
3	Dr. L. Swasticharan	CMO, (LS) Health & Family Welfare Representative of Ministry of Health and Family Welfare
4	Dr. Y. Venkata Ramana	Scientist, G (Director Grade) & Head – Dept. of Work Physiology and Sports Nutrition and MYA-NIN Department of Sports Science, ICMR, National Institute of Nutrition
5	Dr. Manjit Singh	Deputy Secretary, (PE & Sports), CBSE Representative of Ministry of Human Resources Development
6	Col. Bibhu Nayak	Advisor, Sports Injury Centre Safdarjung Hospital Representative of Ministry of Human Resources Development
7	Dr. P Majumdar	Head of Sports Science, Sports Authority of India
8	Dr. H. Sreedhar	Sports Science Expert, TransStadia Member of 'Khelo India Fitness Assessment Protocols' Committee
9	Mr. I.V. Basavaraddi	Advisor, Ministry of AYUSH
10	Mr. Sujit Panigrahi	CEO, Fitness365 Leads Khelo India Fitness Assessment Program, Sports Authority of India

Acknowledgements

On behalf of the Committee constituted for the 'Development of Age Appropriate Fitness Protocols', I thank all individuals and institutions who have contributed to the consultations and deliberations that has gone behind developing the protocols. First and foremost, I would like to profoundly thank Shri R.S. Julaniya, Former Secretary, Department of Sports, Government of India for his dynamic leadership and steadfast support during his tenure as Secretary, Sports. Next, I express my gratitude to Dr. Manohar Agnani, Joint Secretary, Ministry of Health and Family Welfare for his warm encouragement and timely support. I would also like to express sincere thanks towards Shri L.S. Singh, Joint Secretary, Department of Sports for his guidance right from the conception stage.

Next, I owe my deepest gratitude to Shri Rohit Khanna, Chief Executive Officer, Fit India Mission, Dr. Harshvardhan Nayak, Technical Consultant, Ministry of Health and Family Welfare, Ms. Sobika Rao, Assistant Professor, Morarji Desai National Institute of Yoga, Dr. Subham Badhyal, Senior Research Officer, Sports Science, Sports Authority of India and Shri Shailendra Maurya, Section Officer (Sports Department), CBSE, Mr. Vishnu Sudhakaran, Deputy Director, Fit India Mission and Dr. Pankaj Aggarwal, Public Health Expert- Non Communicable Diseases project, Tata Trusts supporting Ministry of Health and Family Welfare for their active participation in various meetings of the Committee, their ideas and practical inputs has helped to formulate and finalise these protocols.Finally, my heartfelt appreciation goes to project NISHTHA/Jhpiego for their creative work and excellent layout designs, Shri. Kunal Patadia and Shri. Mayank Choudhary for their secretarial assistance and coordination work.

Ekta Vishnoi
Mission Director – Fit India

1. Overview

Physical fitness is the ability to perform day to day normal activities with vigor, alertness, without undue fatigue, and with ample energy to enjoy leisure-time pursuits and meet any unforeseen emergencies. Therefore, the basic goal for being physically fit in older adults is to have physical capacity to perform daily tasks safely, independently and without undue fatigue. Development of physical fitness tests among older adults will allow the evaluation, risk factor identification and hence personalized recommendation and prescription of exercise and physical activity based on objective data, which can also be used for planning various health related programs and for goal setting at the community and national level. The physical & physiological parameters being tested should be associated with functions related with basic and advanced normal everyday activities, hence physical fitness tests can detect weaknesses which can be treated before causing serious functional limitations.

1.1 Physical Fitness Assessment

Physical fitness is a set of attributes which individuals have or achieved that relates to their ability to perform physical activity. Physical fitness is thus composed of various elements, and each individual component can be tested and trained separately. Out of various components, following are relevant to functional fitness in older adults:

Fitness Component	**Test**
Flexibility	Upper body: Back Scratch Test Lower body: Chair Sit and Reach Test
Lower Body Strength and Muscular Endurance	Chair Stand Test
Agility and Balance	8-Foot Up and Go Test
Body Composition	Body Mass Index (BMI)
Aerobic/Cardio-vascular Fitness	2 minutes Step Test

2. Test Descriptions

2.1 Upper Body Flexibility -Back Scratch Test

What does it measure:

This test measures upper limb or shoulder flexibility

How to Perform:

1. The subject stands and places the preferred hand over the same shoulder with the palm facing down, fingers extended, reaching down the middle of the back as below as possible. The same side elbow is pointed up.
2. The subject places the other arm with palm facing up, around the back of the waist, reaching up the middle of the back as far as possible, so as to touch or overlap the extended middle fingers of both the hands.
3. Measure the distance between the tips of the middle fingers or the distance of overlap to the nearest half a centimeter. Give minus (-) if the middle finger doesn't touch, zero (0) if they barely touch, and plus (+) if they overlap.
4. Two practice trials may be given before the actual test.
5. The participant is asked to do two test trials also, and the best result is recorded to the nearest half cm.

Infrastructure/Equipment Required:

46 cm (or 18-inch) Ruler

Scoring:

The score is recorded to the nearest 1/2 inch or 1 cm as the distance between the tip of two middle fingers. Give minus (-) if the middle finger doesn't touch, zero (0) if they barely touch, and plus (+) if they overlap.

Administrative Suggestion:

1. Explain the test procedures to the subject.
2. Perform an appropriate warm-up.

Suggested Physical activities to improve flexibility:

You need to practice dance, yoga; and various flexibility related physical activities and gentle stretching exercises - both static and dynamic.

2.2 Flexibility - Chair Sit and Reach Test

What does it measure:

This test measures lower body flexibility

How to Perform:

1. The subject sits on the edge of a chair (placed against a wall for safety).
2. One foot must remain flat on the floor.
3. The other leg is extended forward with the knee straight, heel on the floor, and ankle bent at 90°.
4. Place one hand on top of the other with tips of the middle fingers even. Instruct the subject to Inhale, and then as they exhale, reach forward toward the toes by bending at the hip.
5. Keep the back straight and head up.
6. Avoid bouncing or quick movements, and never stretch to the point of pain.
7. Keep the knee straight, and hold the reach for 2 seconds. The distance is measured between the tip of the fingertips and the toes.
8. If the fingertips touch the toes then the score is zero.
9. If they do not touch, measure the distance between the fingers and the toes (a negative score), if they overlap, measure by how much (a positive score).
10. Perform two trials.

Infrastructure/Equipment Required:

Ruler, straight back or folding chair, (about 17 inches/44 cm high)

Scoring:

The score is recorded to the nearest 1/2 inch or 1 cm as the distance reached, either a negative or positive score. Record which leg was used for measurement.

Administrative Suggestion:

1. Explain the test procedures to the subject.
2. Perform an appropriate warm-up.

Suggested Physical activities to improve Flexibility:

You can include exercise for improving lower limb flexibility, like practicing dance, yoga; and various flexibility related physical activities and gentle stretching exercises - both static and dynamic

2.3 Lower Body Strength and Muscular Endurance - Chair Stand Test

What does it measure:

This test assesses leg strength and muscular endurance

How to Perform:

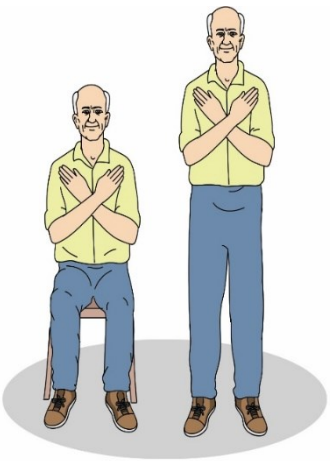
1. Place the chair against a wall, or otherwise stabilize it for safety.
2. The subject sits in the middle of the seat, with their feet shoulder width apart, flat on the floor.
3. The arms are to be crossed at the wrists and held close to the chest.
4. From the sitting position, the subject stands completely up, then completely sits down, and this is repeated for 30 seconds.
5. Count the total number of complete chair stands (up and down equals one stand).
6. If the subject has completed a full stand from the sitting position when the time is elapsed, the final stand is counted in the total.

Infrastructure/Equipment Required:

A straight back or folding chair without armrests (seat 17 inches/44 cm high), stopwatch.

Scoring:

The score is the number of completed chair stands in 30 seconds.



Administrative Suggestion:

Explain the test procedures to the subject. Perform screening of health risks and obtain informed consent. Prepare forms and record basic information such as age, height, body weight, gender, test conditions.

Suggested Physical activities to improve Strength and Endurance

You can improve by climbing stairs, sit ups, squats, planks, crunches, Naukasana, Shalabhasana, Vrikshasana and Back extension exercises.

2.4 Agility and Dynamic Balance - 8 Foot Up-and-Go Test

What does it measure:

The '8 Foot Up-and-Go' is a coordination and agility test for the elderly. This test measures speed, agility and balance while moving.

How to Perform:

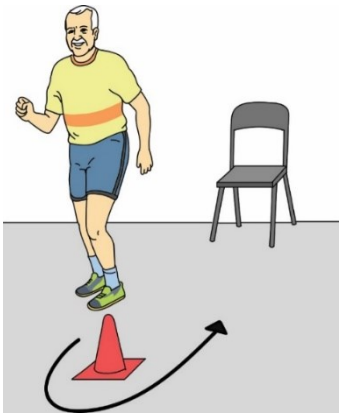
1. Place the chair next to a wall (for safety) and the marker 8 feet in front of the chair.
2. Clear the path between the chair and the marker.
3. The subject starts fully seated, hands resting on the knees and feet flat on the ground.
4. On the command, "Go," timing is started and the subject stands and walks (no running) as quickly as possible (and safely) to and around the cone, returning to the chair to sit down.
5. Timing stops as they sit down. Perform two trials.

Infrastructure/Equipment Required:

Stopwatch, straight back or folding chair (about 17 inches/44 cm high), cone marker, measuring tape, area clear of obstacles.

Scoring:

Take the best time of the two trials to the nearest 1/10th second.



Administrative Suggestion:

Explain the test procedures to the subject. Perform screening of health risks and obtain informed consent. For best results, practice the test once, and then perform it twice. A cane or walker may be used if that is the usual mode of walking. Push-off from the chair is allowed.

Suggested Physical activities to improve Agility, Balance and Coordination

The participant is advised to do general strength and proprioceptive or balance exercise. So are other aerobic and flexibility exercises. The participant may do calf-raise exercise, balancing on one foot with open and closed eyes, heal to toe (tandem) balancing and walking, walking on unstable surfaces like form pads or rocker boards, walking at different speed with also change of direction and involving variety of gait patterns; and other balance related physical activities. He or she may engage themselves in various sports activities (e.g. Badminton), dance, Yoga etc.

2.5 Body Composition - Body Mass Index or BMI

What does it measure:

Body Composition refers primarily to the distribution of muscle and fat in the body. Body size such as height, length and girth are also grouped under this component.

The test performed is Body Mass Index (BMI), which is calculated from body Weight (W) and height(H). BMI = W / (H x H), where W = body weight in kilograms and H = height in meters. The higher the score usually indicates higher levels of body fat.

Measuring Height Accurately

Remove the participant's shoes, bulky clothing, and hair ornaments, and unbraid hair that interferes with the measurement.

Take the height measurement on flooring that is not carpeted and against a flat surface such as a wall with no molding.

Have the participant stand with feet flat, together, and back against the wall. Make sure legs are straight, arms are at sides, and shoulders are level.

Make sure the participant is looking straight ahead and that the line of sight is parallel with the floor.

Take the measurement while the participant stands with head, shoulders, buttocks, and heels touching the flat surface (wall). (See illustration.) Depending on the overall body shape of the participant, all points may not touch the wall.

Use a flat headpiece to form a right angle with the wall and lower the headpiece until it firmly touches the crown of the head.

Make sure the measurer's eyes are at the same level as the headpiece.

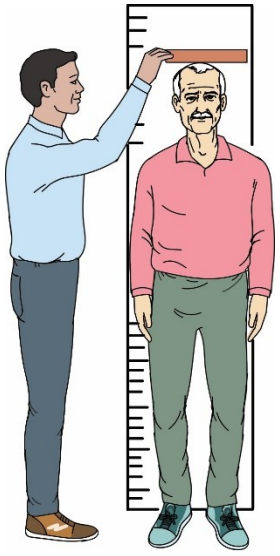
Lightly mark where the bottom of the headpiece meets the wall. Then, use a metal tape to measure

Infrastructure/Equipment Required:

Flat, Clean surface, Weighing Machine, Stadiometer/Measuring Tape pasted on a wall

Scoring:

Height recorded in cm and mm. Accurately record the height to the nearest 0.1 centimeter.



Weight will be recorded in kilogram (kg) and grams (gms). Record the weight to the nearest decimal fraction (eg, 25.1 kilograms).

from the base on the floor to the marked measurement on the wall to get the height measurement.

Accurately record the height to the nearest 0.1 centimeter.

Measuring Weight Accurately

Use a digital scale. Avoid using bathroom scales that are spring-loaded. Place the scale on firm flooring (such as tile or wood) rather than carpet.

Have the participant remove shoes and heavy clothing, such as sweaters.

Have the participant stand with both feet in the center of the scale.

Record the weight to the nearest decimal fraction (for example, 25.1 kilograms).

How to conduct: https://youtu.be/mVGfZ0_ki7M

Administrative Suggestion:

Pre-Test: Explain the test procedures to the subject. Prepare forms and record basic information such as age, height, body weight, gender.

Suggestions for Improvement:

One can improve BMI by losing excess fat. It is recommended to perform at least 30 minutes of moderate-intensity activity, above usual activity done at home or work, most days (5+) of the week to reduce the risk of chronic disease. One can gain greater health benefits from doing more activity. To manage body weight and prevent gradual weight gain, 60 minutes of moderate to vigorous activity on most days (5+) of the week is necessary. In order to sustain weight loss, 60-90 minutes of daily moderate-intensity activity may be necessary.

For both weight maintenance and weight loss, it is important to keep food intake (calories) to a level that is equal to or less than the amount of calories to burn through daily activity.

2.6 Aerobic endurance/Cardiorespiratory fitness (2-Minute Step Test)

What does it measure:

Aerobic endurance/Cardiorespiratory fitness.

How to Perform:

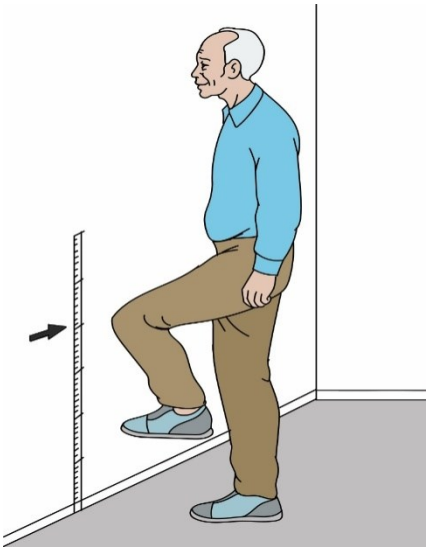
1. The participant has to step in place as much time as possible in 2 minutes.
2. The minimum stepping or knee height should be the mid-point between hip bone and knee cap.
3. On the signal, "go" the participant has to start stepping (and not run or jump).
4. Care should be given that correct knee height is achieved. If not able to do so, the participant is asked to slow down until he or she regains the correct form.
5. The participant should be asked to practice the day before actually doing the test.

Infrastructure/Equipment Required:

Stopwatch, measuring tape or piece of cord of about 30 inches or 76cm, masking tape, tally counter to help count steps.

Scoring:

Total number of full steps in correct form completed in two minutes.



Administrative Suggestion:

Explain the test procedures to the subject. Perform screening of health risks and obtain informed consent. Prepare forms and record basic information such as age, height, body weight, gender, test conditions. The participant with a balance problem should stand near a wall, or doorway, or between rails or chairs (so as to support oneself in case of lost balance), and should be spotted carefully.

Suggested Physical activities to improve Cardiorespiratory Endurance:

You can do pranayam (kapalbhati, bhastrika, bhramari), road cycling, swimming, aerobics, jogging, running and dancing to improve endurance. Also, strength exercise specially for lower limbs.

3. Fitness Protocols

WHO Guidelines on Physical Activity and Sedentary Behaviour 2020

Age Appropriate Fitness Protocols and Guidelines for age 65 years and older

1. Older adults should do at least 150 minutes to 300 minutes of moderate-intensity aerobic physical activity, or do at least 75 to 150 minutes of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for substantial health benefits;
2. Older adults should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.
3. As part of their weekly physical activity, older adults should do varied multi-component physical activity that emphasizes functional balance and strength training at moderate or greater intensity on 3 or more days a week, to enhance functional capacity and prevent falls.

3.1 Physical Fitness Recommendations

There is strong evidence that demonstrates that compared to less active men and women, older adults who are physically active have:

- lower rates of coronary heart disease, hypertension, stroke, diabetes, colon and breast cancer, a higher level of cardiorespiratory and muscular fitness,
- healthier body mass and composition and enhanced bone health; and
- higher levels of functional health, a lower risk of falling, and better cognitive function.

Inactive people should start with small amounts of physical activity and gradually increase duration, frequency and intensity over time. Inactive adults and those with disease limitations will have added health benefits when they become more active.

Fit India recommends the following physical activities for improvement amongst 65 years and above age group:

3.2 Flexibility related Activities

1. Shoulder and upper-arm stretch

a. Stand with feet shoulder-width apart.
b. Hold one end of a towel with your right hand.
c. Raise the right arm, and flex the elbow so as to drape the towel down your back.
d. With your left hand, reach behind your lower back, and grasp the towel.
e. Pull the towel with the left hand to stretch your right shoulder to the point of comfortable tension.
f. You can hold the position from 10-30 seconds.

2. Wall upper-body stretch

a. Stand with feet shoulder-width apart, and slightly farther than arm's length from a wall.
b. Lean forward and put both your palm flat on the wall at shoulder-width, and shoulder-height.
c. Keeping the back straight, slowly walk your hands up the wall until the arms are above the head.
d. Hold the arms overhead for 10-30 seconds.
e. Slowly walk your hands back down and relax.

3. Chest stretch

a. Stand with feet together
b. Grasp your hand behind your back.
c. Slowly bring together the shoulder blades until a gentle stretch is felt in your chest, shoulders and arms.
d. Hold the position for 10-30 seconds.

4. Cross-arm stretch (shoulder stretching)

a. Stand with feet little less than shoulder-width with down arm by side of the body.
b. Bring your one arm upto a little less than the shoulder height.
c. Place your other hand on the elbow of the first arm, and gently pull it across the body using the other hand.
d. You can hold the position upto 30 seconds.
e. Repeat on the other side.

5. Doorway stretch (chest and shoulder stretching)

a. Stand in a doorway with your feet in a split stance.
b. Bring your one arm upto your shoulder height, placing the palm and forearm in the doorway, with the elbow and arms forming a right angle.

c. Gently lean and rotate the body away from the doorway so as to create a gentle stretch on the shoulder.
d. One can hold the position for 30 second.
e. Repeat on the other side.

6. Child's Pose (side or latissimus dorsi, and shoulder stretching)

a. Kneel on exercise mat with the body upright
b. Slowly crawl forward till there is a full extension of arms in front of you.
c. Lower your torso on your thighs, while bending your forehead on the ground.
d. One can hold the position for 30 second.

7. Forward Bend

a. Stand with your feet together, extend your torso down without rounding your back.
b. Stay long throughout your neck, extending the crown of your head toward the ground.
c. Draw your shoulders down your back.

8. Calf Stretch

a. Stand facing a wall. Put your hands against the wall at shoulder height.
b. Put one foot in front of the other.
c. Bend your elbows and lean in toward the wall. You will feel a stretch in your calves.
d. Keep your knee straight and your hips forward. Make sure your heel stays on the ground.
5. Switch your feet and repeat the stretch.

9. Knee to Chest

a. Lie on your back with your legs straight.
b. Bring the right knee toward your chest.
c. Wrap your arms underneath your knee and pull your leg closer to your body until you feel a stretch in the back of your right thigh.
d. Repeat the stretch on your left leg.

10. Bend Down

a. Stand tall with your feet hip-width apart, knees slightly bent, arms by your sides.
b. Exhale as you bend forward at the hips, lowering your head toward the floor, while keeping your head, neck and shoulders relaxed.

Source: Rikli RE, Jones CJ. Senior fitness test manual. 2nd ed. Champaign: Human Kinetics; 2013.

3.3 Strength related Activities

1. Straight Leg Raises (Lower Body Strength)

Stand tall. Use a chair or wall for balance.

Forward:

a. Slowly lift your leg up in front of you as high as you can.
b. Keep your leg straight.
c. Then lower back to the starting position.
d. Do not relax your leg.
e. Do not swing your leg.

Side:

a. Slowly lift your leg out to the side with your toe pointed forward.
b. Keep your leg straight.
c. Then lower back to the starting position.
d. Do not relax your leg.
e. Do not swing your leg.
f. After you have completed all leg lifts on one side, switch to the other side.

2. Push-Ups on the Wall (Upper Body Strength)

a. Stand facing the wall.
b. Place your hands flat on the wall at shoulder level.
c. Keep your arms straight.
d. Your feet should be behind your body so that you are leaning on the wall.
e. Stand on the balls of your feet.
f. Bend your arms to bring your chest to the wall.
g. Keep your legs in place.
h. Make your body a straight line.
i. Push your arms straight to return to the starting position.
j. Make sure your body stays in a straight line the whole time.

3. Squat (Lower Body Strength)

a. Plant your feet on the ground
b. Bend your knees
c. Lower yourself in a controlled manner.
d. Stand again as before.

3.4 Agility and Balance Related Activities

1. Calf raises

a. Stand with feet shoulder-width behind a chair or a wall with hands placing on it for stability
b. Rise up onto your toes slowly and then lower to the starting position
c. Repetition can be done for 8-12 times.

2. Seated sit-ups

a. Sit on the front end of an armless chair sturdy chair.
b. Cross your arms across the chest.
c. Lean backward against the backrest of the chair.
d. Slowly, move forward flexing the hip join, and tightening the abdominal muscles till seated upright.
e. Return slowly to the starting point after a very brief pause.
f. Repeat the exercise for 5-10 times.

3. Shifting side to side

a. Stand with feet shoulder-width with hand placed over a chair or any supporting surface to maintain balance.
b. Shift as much of your weight to one leg.
c. Hold the position for 5 seconds, and then return to the centre position (body weight equally distributed in both the legs.)
d. Then repeat the test to the opposite leg.
e. The exercise can be done 8 times on each leg.

4. Zigzag exercise

a. Set 4 to 6 marker cones, 3 feet (0.9 meter) apart in a straight line.
b. A chair is placed at the beginning of the line.
c. The subject sits on the chair.
d. The subject then weaves or zigzags his/her way through the marker cones in a left to right or right to left, to the end of the course and then returns back to sit down in the chair at the starting point.
e. After taking a rest for a few seconds, the whole exercise can be repeated 3-5 times.

5. Single Leg Stance

a. Stand on one leg with your arms out to the side.
b. Work up to holding this position for 30 seconds.

6. Leg Swings

a. Stand on one leg, swinging the other leg front to back.
b. You can lightly hold onto something for help if necessary.
c. Do 10 swings on each side.

7. Walking on Lines of different shapes

a. Find or make a straight/zigzag line on the floor.
b. Walk on the line for 20 steps.

c. You can put your arms out to the side for additional balance help.

3.5 Aerobic /Cardio-vascular Endurance related Activities

1. Spot Running (improves Speed & Endurance & Core Strength)

a. Stand straight.
b. Start jogging.
c. Make sure to jump on toes and land on your heels.
d. As this is a warm-up, do this for 30 to 45 seconds.

2. Climbing Stairs (Endurance)

a. Step the right foot onto the first step, followed by the left.
b. Continue this stepping motion until you've reached the top of the stairs.
c. Always lead with the high foot.
d. Don't let your feet cross while climbing up the stairs.

3. Walking on toes (Endurance)

a. Position the heel of one foot just in front of the toes of the other foot. Your heel and toes should touch or almost touch.
b. Choose a spot ahead of you and focus on it to keep you steady as you walk.
c. Take a step.
d. Put your heel just in front of the toe of your other foot.
e. Repeat for 20 steps.

4. Jumping Jacks (Endurance)

a. Jump up and spread your legs apart as you swing your arms over your head.
b. Jump again and bring your arms back to your sides and your legs together.

5. March and Swing Your Arms (Endurance)

a. March in place. Lift your knees up as high as you can. Go at a steady pace.
b. As you bring your knee up, swing the opposite arm in front of you.
c. Switch your arms when you switch your legs

6. 800 mt. or longer distance Running or Walking (Endurance)

a. Do this as a group activity with many children
b. Try to complete a given task in the shortest amount of time.

7. Brisk Walking (Endurance)

a. Walk a little initially and then gradually increase the time.
b. Take light, easy steps and make sure your heel touches down before your toes.

7. Swimming (Endurance)

a. Float with your face in the water, your body straight and horizontal.
b. Stack your hands and keep your arms and legs long.
c. Kick out and back in a circle then snap your feet together.
d. Drop your head underwater and exhale.

4. Age-appropriate Yoga Protocols

Yoga has the ability to change our perspectives of life. More keenness for life, genuine and natural sense of feel good, renewed sense of health and wellbeing are some of the benefits of Yoga. Its therapeutic approaches and principles represent the essence of a broad holistic dimension to health and disease. The practice of Yoga facilitates mind and body coordination, emotional equanimity, intellectual clarity to the practitioners.

4.1 Yoga Protocol for Age Group 65+ Years

<table>
<tr><th colspan="2">Yoga practices</th><th>Rounds</th><th>Duration</th></tr>
<tr><td colspan="2">1. Prayer</td><td></td><td>1 min</td></tr>
<tr><td rowspan="12">2.</td><td>Loosening Practices</td><td></td><td rowspan="12">4 mins</td></tr>
<tr><td>a) Neck movements</td><td rowspan="12">2 rounds</td></tr>
<tr><td>• Forward and backward bending</td></tr>
<tr><td>• Right and left bending</td></tr>
<tr><td>• Right and left twisting</td></tr>
<tr><td>b) Shoulder movements</td></tr>
<tr><td>• Shoulder rotation (forward and backward)</td></tr>
<tr><td>c)Trunk movement</td></tr>
<tr><td>• Towards left and right</td></tr>
<tr><td>d) Ankle Movement (In sitting)</td></tr>
<tr><td>• Up and Down</td></tr>
<tr><td>• Gentle Rotation</td></tr>
<tr><td colspan="2">3. Yogasanas</td><td rowspan="11">2 rounds</td><td rowspan="11">7 mins</td></tr>
<tr><td rowspan="3">Standing</td><td>Tadasana (The Palm tree pose)</td></tr>
<tr><td>Hastottanasana (Upstretched arms with side bending)</td></tr>
<tr><td>Katicakrasana (The Half wheel pose)</td></tr>
<tr><td rowspan="3">Sitting</td><td>Dandasana (The Staff pose)</td></tr>
<tr><td>Sukhasana (The Easy pose)</td></tr>
<tr><td>Vakrasana (The Seated Spinal twist)</td></tr>
<tr><td rowspan="2">Prone</td><td>Makarasana (The Crocodile pose)</td></tr>
<tr><td>Saral Bhujangasana/ Bhujangasana (The Cobra pose)</td></tr>
<tr><td rowspan="2">Supine</td><td>Markatasana (The Monkey pose)</td></tr>
<tr><td>Ek Pad Pavanamuktasana (The One-legged wind releasing pose)</td></tr>
<tr><td colspan="2">4. Pranayama</td></tr>
<tr><td></td><td>• Anuloma-Viloma/ (Alternate nostril breathing)
• Bhramari Pranayama (Humming)</td><td>3 rounds</td><td>2 mins</td></tr>
<tr><td colspan="2">5. Dhyana</td><td></td><td>1 min</td></tr>
<tr><td></td><td colspan="2">TOTAL DURATION</td><td>15 min</td></tr>
</table>

Note: Yogic practices should be performed according to their own capacity.

To know about each of the Yoga Protocols, please refer to Ministry of AYUSH Website:http://ayush.gov.in/genericcontent/common-yoga-protocol-2017

Yoga Protocols Videos (in different languages):
https://www.youtube.com/playlist?list=PLRR-Y7wX83ktZnITgjRzl9v_8BaYRMDf-

5. Guidelines & Safety Considerations

5.1 Yoga Guidelines

Yoga practitioner should follow the general guidelines as under, while performing Yogic practices:

5.1.1 Before the Practice:

- A non-slippery surface / Yoga mat is preferable.
- In case of Chronic disease/ Pain/Cardiac problems, consult Physician /Yoga Therapist before performing Yogic Practices.
- Cleanliness of the surroundings, body and mind.
- Yogic practice should be done on an empty/light stomach.
- Bladder and bowels should be empty.
- Girls may avoid practice during menstruation or they can practice simple relaxing Yogic practices or Dhyana.

5.1.2 During the Practice:

- The Yogic practice shall be performed slowly, in a relaxed manner, with awareness of the body and breath.
- Do not hold the breath unless specified.
- Breathing should be through nostrils unless instructed otherwise.
- Every asana should be stable, comfortable and effortless.
- Perform asana according to one's capacity.
- The asana should be maintained without any undue tension in the muscle and with a relaxed state of mind.
- It is advisable to maintain the pose for 10 seconds. It can be extended to 60 seconds with regular practice.
- Holding the posture for 10 seconds or minimum 3 breathing is optimal.
- There are contra-indications/ limitations for each Yoga practice and should always be kept in mind.

5.1.3 After the Practice:

- It is advised to take a bath after 20-30 minutes of Yoga practice.
- Food may be taken only after 20-30 minutes of Yoga practice.
- One should feel relaxed and comfortable after Yoga practice. If any fatigue is felt during or after Yoga practice, may please consult a Physician /Yoga Therapist.

5.2 Environmental Consideration:

- Adequate precautionary measures related to adequate hydration and proper clothing should be undertaken before undertaking physical exercises in hot humid, cold &high-altitude areas.
- Adequate rest, quality sleep, Nutrition & Hydration status be ensured before undertaking exercise protocol as an essential safety prerequisite.
- Sustained and heavy exercises are to be avoided in Hot & Humid environment.
- Appropriate modification should be carried out in exercise protocols keeping in view of the prevailing local environmental conditions to be undertaken (extreme weather conditions).

5.3 Warm up:

- Warm-uo for a duration of 5-10 minutes will be an integral part of the exercise protocol.
- Light Stretching be undertaken as a part of the warm up phase of exercise protocol which has a role in injury prevention.

5.4 Hydration:

Appropriate measures should be undertaken during the duration of exercise to maintain adequate hydration to make up for the loss of fluid & electrolyte (water and salt) during exercise.

5.5 Cool Down:

Cooling down by undertaking light aerobic exercises & stretching of major joints for a duration of 5-10 minutes be undertaken after the end of the exercise.

5.6 Other Considerations:

- Participants across the age group having a Body Mass Index (BMI) more than 30 are advised to start the exercise protocol in a gradual manner with relatively lesser time duration, lower intensity & lesser frequency and be encouraged to gradually increase the frequency, time & intensity till it is tolerated well.
- Adults with known medical history should exercise under supervision, after due clearance from concerned Medical Practitioners.

Participants are encouraged to be vigilant about the possible development / occurrence of symptoms with regard to adverse medical conditions and immediately stop the exercise and seek medical attention.

6. Benchmarks for Fitness Tests

Description of Fitness Indicators

	L1 (Work Harder)	L2 (Must Improve)	L3 (Can do Better)	L4 (Good)	L5 (Very Good)	L6 (Athletic)	L7 (Sports Fit)
Level	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**	**Level 7**
Score	**2 Points**	**4 Points**	**6 Points**	**7 Points**	**8 Points**	**9 Points**	**10 Points**

The following benchmarks are the baseline reference point for current Year. At the end of the Year, the Fitness benchmarks will be generated based on the fitness assessment being done across India. For the purpose of current year's reference point, the following benchmarks are to be used:

6.1 Chair Sit and Reach Test (Flexibility)

6.1.1 Men - Amount of stretch (inches)

Age (Yrs)	below average	average	above average
60-64	< -2.5	-2.5 to 4.0	> 4.0
65-69	< -3.0	-3.0 to 3.0	> 3.0
70-74	< -3.5	-3.5 to 2.5	> 2.5
75-79	< -4.0	-4.0 to 2.0	> 2.0
80-84	< -5.5	-5.5 to 1.5	> 1.5
85-89	< -5.5	-5.5 to 0.5	> 0.5
90-94	< -6.5	-6.5 to -0.5	> -0.5

6.1.2 Women - Amount of stretch (inches)

Age (Yrs)	below average	average	above average
60-64	< -0.5	-0.5 to 5.0	> 5.0
65-69	< -0.5	-0.5 to 4.5	> 4.5
70-74	< -1.0	-1.0 to 4.0	> 4.0

75-79	< -1.5	-1.5 to 3.5	> 3.5
80-84	< -2.0	-2.0 to 3.0	> 3.0
85-89	< -2.5	-2.5 to 2.5	> 2.5
90-94	< -4.5	-4.5 to 1.0	> 1.0

Source: Jones & Rikli, 2002

6.2 Lower Body Strength and Muscular Endurance (Chair Stand Test)

6.2.1 Men - Number of times he can stand in 30 seconds

Age (Yrs)	below average	average	above average
60-64	< 14	14 to 19	> 19
65-69	< 12	12 to 18	> 18
70-74	< 12	12 to 17	> 17
75-79	< 11	11 to 17	> 17
80-84	< 10	10 to 15	> 15
85-89	< 8	8 to 14	> 14
90-94	< 7	7 to 12	> 12

6.2.2 Women - Number of times she can stand in 30 seconds

Age (Yrs)	below average	average	above average
60-64	< 12	12 to 17	> 17
65-69	< 11	11 to 16	> 16
70-74	< 10	10 to 15	> 15
75-79	< 10	10 to 15	> 15
80-84	< 9	9 to 14	> 14
85-89	< 8	8 to 13	> 13
90-94	< 4	4 to 11	> 11

Source: Jones & Rikli, 2002

6.3 Agility and Dynamic Balance (8 Foot Up and Stand)

6.3.1 Men - Time in seconds

Age (Yrs)	below average	average	above average
60-64	> 5.6	5.6 to 3.8	< 3.8
65-69	> 5.7	5.7 to 4.3	< 4.3
70-74	> 6.0	6.0 to 4.2	< 4.2
75-79	> 7.2	7.2 to 4.6	< 4.6
80-84	> 7.6	7.6 to 5.2	< 5.2
85-89	> 8.9	8.9 to 5.3	< 5.3
90-94	> 10.0	10.0 to 6.2	< 6.2

6.3.2 Women - Time in seconds

Age (Yrs)	below average	average	above average
60-64	> 6.0	6.0 to 4.4	< 4.4
65-69	> 6.4	6.4 to 4.8	< 4.8
70-74	> 7.1	7.1 to 4.9	< 4.9
75-79	> 7.4	7.4 to 5.2	< 5.2
80-84	> 8.7	8.7 to 5.7	< 5.7
85-89	> 9.6	9.6 to 6.2	< 6.2
90-94	> 11.5	11.5 to 7.3	< 7.3

Source: Jones & Rikli, 2002

6.4 Aerobic Endurance (2-minute step test)

6.4.1 Men (no.)

Age (Yrs)	below average	average	above average
60-64	> 87	87-115	< 115
65-69	> 86	86-116	< 116
70-74	> 80	80-110	< 110
75-79	> 73	73-109	< 109
80-84	> 711	711-103	< 103
85-89	> 59	59-91	< 91
90-94	> 52	52-86	< 86

6.4.2 Women (no.)

Age (Yrs)	below average	average	above average
60-64	> 75	75-107	< 107
65-69	> 73	73-107	< 107
70-74	> 67	67-101	< 101
75-79	> 68	68-100	< 100
80-84	> 60	60-90	< 90
85-89	> 44	55-85	< 85
90-94	> 44	44-72	< 72

Source: Rikli RE, Jones CJ. Senior fitness test manual. 2nd ed. Champaign: Human Kinetics; 2013.

6.5 BMI

BMI Category	Underweight	Normal	Overweight	Obese
BMI range – kg/m2	<18.5	18.5-22.9	23-24.9	>=30

Source: World Health Organization

for more details, visit

http://fitindia.gov.in