Course Title: **Exercise Prescription for Alzheimer's Prevention and Intervention**

Produced by: **Fitness Learning Systems**
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Course Type: **e-Learning Home Study**

Credit hours: IACET (International Association for Continuing Education and Training) 0.6 (6 Hours) Approved and Accepted by several additional organizations.

Author:

Author Biography:
Dharma Singh Khalsa, M.D.
President & Medical Director
Alzheimer's Research & Prevention Foundation
Since he founded the Alzheimer's Research and Prevention Foundation (ARPF) in 1993, he has been serving as its President and Medical Director. The ARPF is the original voice in the integrative or holistic medical approach to Alzheimer's prevention and treatment, and is dedicated to fighting Alzheimer's disease and finding a cure through research and prevention.
Dr. Khalsa graduated from Creighton University School of Medicine in 1975, and received his postgraduate training in anesthesiology at the University of California, San Francisco where he was chief resident. As chief resident, he conducted highly acclaimed research on anesthesia for cardiac surgery and obstetrical anesthesiology. He is also a graduate of the University of California, Los Angeles Medical Acupuncture for Physicians Program, and has studied mind/body medicine at Harvard Medical School's Mind/Body Medical Institute. Dr. Khalsa is board certified in anesthesiology and pain management, and he is a diplomat of the American Academy of Anti-Aging Medicine.
After founding the ARPF in 1993, he became the first physician to advocate a lifestyle approach to the prevention and treatment of memory loss, including Alzheimer's. He is among the world's leading authorities on integrative medicine, and has written extensively on a wide range of health and healing issues.
In March 2015, Dr. Khalsa was appointed Clinical Associate Professor, Division of General Internal Medicine, Geriatrics, and Integrative Medicine at the University of New Mexico Health Sciences Center in Albuquerque, New Mexico, where he continues innovative research work on behalf of the ARPF. He also serves as Associate Editor for the Journal of Alzheimer's Disease.

Course Summary:

As the world population continues to grow and live longer, the issues of accompanying cognitive decline, dementia, and fatal Alzheimer's disease are becoming more prevalent. Statistics indicate that 5.4 million Americans and 47.5 million people have dementia worldwide, significantly impacting quality of life, health care systems, and the economy of many countries. Dementia impacts society and families, putting strain on family members and care givers. Alzheimer's

disease, the most prevalent form of dementia, is the 6th leading cause of death in the United States.
Research indicates that mental decline is not necessarily a normal part of the aging process, and intervention can be preventive and may also be used to slow the progression of diagnosed disease. By managing the known risk factors and using the 4 Pillars of Alzheimer's Prevention, you may prevent, reduce your risk of developing, delay the onset, and slow progression of cognitive decline and Alzheimer's disease.
This course reviews statistics, definitions, risk factors, and stages of disease progression. The primary focus of this course is evidence-based preventive physical exercise for prevention and intervention. Exercise guidelines and considerations are provided and sample programs are included.

Objectives:

After completing this course you will be able to:

1. Discuss cognitive decline, statistics for dementia and Alzheimer's, and identify 4 definitions related to cognitive decline.
2. Describe 8 risk factors that may lead to cognitive decline.
3. Identify the 7 stage Alzheimer's Disease Progression Model.
4. Discuss the evidence-based research related to exercise and cognitive decline.
5. Explain exercise prescription for brain health.
6. Identify 3 levels of exercise prevention and intervention for cognitive decline.
7. Discuss 5 exercise guidelines for prevention and intervention for cognitive decline.
8. Describe safe exercise prescription practice for clients with concurrent chronic diseases.
9. Discuss 3 exercise considerations when working with clients with cognitive decline.
10. Explain how to safely and effectively implement exercises and exercise programs for clients with cognitive decline based on the 5 sample programs provided in this course.

Outline:

<table>
<tr><td colspan="2">Learning Outcome 1

Discuss cognitive decline, statistics for dementia and Alzheimer's, and identify 4 definitions related to cognitive decline.</td></tr>
<tr><td>Pages: 8</td><td>Videos: 0</td></tr>
<tr><td>Audio: TBD</td><td>Interactive Material:</td></tr>
<tr><td colspan="2">Subtopics:

1.1 Cognitive Decline
1.2 Statistics
1.3 Cognitive Decline: Definitions
• Dementia
• Subjective Cognitive Decline (SCD)
• Mild Cognitive Impairment (MCI)
• Alzheimer’s Disease (AD)</td></tr>
<tr><td>Assessment Questions: 6</td><td></td></tr>
</table>

Learning Outcome 2 Describe 8 risk factors that may lead to cognitive decline.	
Pages: 2	Videos: 0
Audio: TBD	Interactive Material: Pictures
Subtopics: 2.1 Risk Factors	
Assessment Questions: 1	
Learning Outcome 3 Identify the 7 stage Alzheimer's Disease Progression Model.	
Pages: 2	Videos: 0
Audio: TBD	Interactive Material: Pictures and PDF Printable
Subtopics: 3.1 Stages of Disease Progression • 7-Stage Alzheimer's Disease Progression Model	
Assessment Questions: 2	
Learning Outcome 4 Discuss the evidence-based research related to exercise and cognitive decline.	
Pages: 6	Videos: 0
Audio: TBD	Interactive Material: Pictures
Subtopics: 1.1 Cognitive Decline, Exercise, and Research	
Assessment Questions: 3	
Learning Outcome 5 Explain exercise prescription for brain health.	
Pages: 4	Videos: 0

Audio: TBD	Interactive Material: Pictures
Subtopics: 5.1 Exercise Prescription and Brain Health	
Assessment Questions: 3	
Learning Outcome 6 Identify 3 levels of exercise prevention and intervention for cognitive decline.	
Pages: 10	Videos: 0
Audio: TBD	Interactive Material: Pictures

Subtopics:
 	
6.1 Preventive Physical Exercise
• Levels of Exercise Intervention
  ○ Level 1
  ○ Level 2
  ○ Level 3	

Assessment Questions: 6	
Learning Outcome 7 Discuss 5 exercise guidelines for prevention and intervention for cognitive decline.	
Pages: 13	Videos: 0
Audio: TBD	Interactive Material: Pictures

Subtopics:
 	
7.1 Preventive Physical Exercise
• Exercise Guidelines
  ○ Exercise Testing
  ○ Cardiorespiratory Training
  ○ Muscular Strengthening/Endurance Exercise
  ○ Flexibility Training
  ○ Balance and Gait Training	

Assessment Questions: 9	
Learning Outcome 8 Describe safe exercise prescription practice for clients with concurrent chronic diseases.	

Pages: 5	Videos: 0
Audio: TBD	Interactive Material: Pictures and PDF Printable
Subtopics: 8.1 Concurrent Chronic Disease	
Assessment Questions: 2	
Learning Outcome 9 Discuss 3 exercise considerations when working with clients with cognitive decline.	
Pages: 14	Videos: 0
Audio: TBD	Interactive Material: Pictures
Subtopics: 9.1 Exercise Considerations • Challenges • Working with the AD Client • Adding Cognitive Components	
Assessment Questions: 6	
Learning Outcome 10 Explain how to safely and effectively implement exercises and exercise programs for clients with cognitive decline based on the 5 sample programs provided in this course.	
Pages: 65	Videos: 0
Audio: TBD	Interactive Material: Pictures and many flipping pictures in sample programs- 8 videos and 5 PDF Printables

Subtopics:
 	
10.1 Exercise Programming for AD
• Sample Exercise Program 1
  ○ 4 Movement Preparation Exercises
  ○ 6 Core Activation Exercises
  ○ 5 Integrated Strengthening Exercises
• Sample Exercise Program 2
  ○ Functional Warm UP
  ○ Beginner Workout 1
  ○ Beginner Workout 2
  ○ Intermediate Workout	

- Sample Exercise Program 3
    - Movement Skill and Cognition Assessment
    - Cross Body Mechanics
    - Advanced Stage Test
    - Superman Tap Out
    - Fall Avoidance Marching
    - Train the Chain- Core Conditioning
    - Brain Games with Exercise Engagement
- Sample Group Exercise Program
- Basic Spinal Energy Exercises
    - Low Spine Rocking
    - Middle Spine Rocking
    - Spinal Rotation
    - See Saw
    - Thoracic Spine Rocking
    - Kirtan Kriya
    - Sample Program

Assessment Questions: 11	

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