

Young at Heart: A Community-based Fitness Program for Older Adults

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Greet attendees and introduce ourselves (short bio, credentials etc.) SLOW DOWN



OBJECTIVES

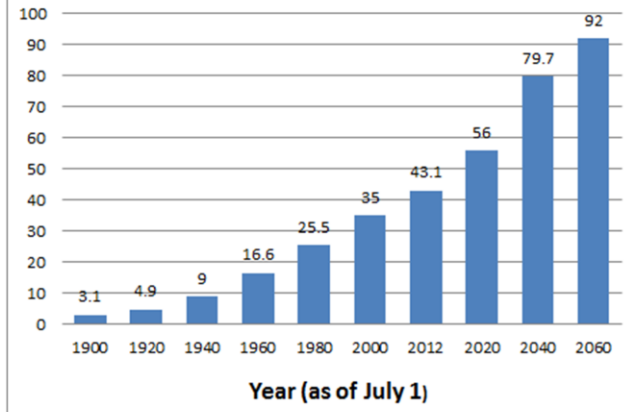
1. Attendees will have knowledge of an older adults fitness program that has been shown to reduce the number of falls when compared to non-exercising, age and sex matched counterparts.
2. Attendees will have knowledge of the components and the design of the Young at Heart fitness program.
3. Attendees will be able to take back information to their communities on how to implement the Young at Heart program in their own community.

We will be covering all three objectives today.



INTRODUCTION

**Figure 1: Number of Persons 65+,
1900 to 2060 (numbers in millions)**



Note: Increments in years are uneven.
Source: U.S. Census Bureau, Population Estimates and Projections.

1. There is a growing percentage of older adults in our society. This is evident because of the aging of the “baby boomers”
2. The baby boomer generation is those born between 1946 and 1960 (is identified as such because there was a spike in birth rate in the US after WWII.) (Howley & Franks, 2007).
3. Over 8000 people are turning 65 years old a day and will continue until 2030 when the youngest boomer turns 65.
4. The baby boomers started turning 65 years old in 2009 and will continue until the youngest baby boomers reach 65 years in 2030 (Vincent & Velkoff, 2010).



IMPACT OF FALLS

- 1/3 of older adults (65 years or older) fall each year.
- Among older adults, falls are the leading cause of both fatal and nonfatal injuries.
- 20% - 30% of people who fall suffer moderate to severe injuries such as lacerations, hip fractures, and head traumas.
- In 2013, 2.5 million non-fatal falls among older adults were treated in the emergency department.
- 734,000 of these patients were hospitalized.



According to the CDC – Center for Disease Control & Prevention

1. These injuries can make it hard to get around or live independently, and increase the risk of early death.
2. In many cases, those who have experienced a fall have a hard time recovering and their overall health deteriorates.
3. More than 40% of people hospitalized from hip fractures do not return home and are not capable of living independently again.
4. **According to Michael Shattuck, a Family Physician** “Studies show that 20% of older adults who break a hip survive for one year and 9% will actually die within the first 30 days.”



WHAT WE KNOW

- More older adults = impact on society.
- Exercise interventions reduce visits to health care professionals.
- Major medical and scientific organizations endorse the importance of a physically active lifestyle for older adults (Alzheimer's Association, 2015; American College of Sports Medicine, 2011; American Heart Association, 2013; Centers for Disease Control and Prevention, 2013; International Council on Active Aging, 2012).
- There is an immediate need for exercise programs specifically designed to reduce physical frailty and the rising incidence of falls among older adults.

1. With a dramatic increase in number of the older population there will be significant consequences to society primarily associated with greater demand for health care (ACE, 2005).
2. It is very well known that exercise interventions reduce visits to the health care professionals.
3. Major Medical and scientific organizations endorse the importance of a physically active lifestyle for older adults.
4. Fitness programs should address health screening issues, the need for socialization, prevention of chronic diseases, and realistic goals to maintain independent living (Howley & Franks, 2007).
5. There is an immediate need for exercise programs specifically designed to reduce physical frailty and the rising incidence of falls among older adults (Rose, 2003)
6. One example of a community-based organization targeting physical frailty and functional fitness is the Healthy Aging Association of Stanislaus County in California.



EVIDENCE BASED



- The goal of evidence based practice is the integration of:
 - Clinical expertise/expert opinion,
 - External scientific evidence, and
 - Client/patient/caregiver perspectives to provide high-quality services reflecting the interests, values, needs, and choices of the individuals we serve.
- Secure Funding
 - Administration on Community Living (ACL)

As of 2012 (due to a change in appropriations language) required to be used for activities which have been “demonstrated through rigorous evaluation to be evidence based and effective”



ACL FUNDING

Future Definition of Evidence-Based:

- Demonstrated through evaluation to be effective for improving the health and wellbeing or reducing disease, disability and/or injury among older adults.
- Proven effective with older adult population, using Experimental or Quasi-Experimental Design.
- Fully translated in one or more community site(s).
- Includes developed dissemination products that are available to the public.
- Research results published in a peer-review journal.

For more information visit: http://www.aoa.acl.gov/AoA_Programs/HPW/Title_IIID/index.aspx#future

FUTURE Definition of Evidence-Based (Effective October 1, 2016)

As of October 1, 2016, the current three-tier definition will no longer exist. In its place will be one definition of “evidence-based.” All programs using OAA Title IIID funding will have to meet this new definition on and after October 1, 2016.

Why are evidence-based initiatives in preventative health (Title IIID) important?

1. OAA Title IIID is intended to initiate programs designed to help older adults prevent and/or manage chronic diseases and promote healthier lifestyles. Healthy aging reduces healthcare costs and increases quality of life for older adults.
2. Evidence-based programs are shown to be effective at helping participants adopt healthy behaviors, improve their health status, and reduce their use of hospital services and emergency room visits.
3. Older Americans are disproportionately affected by chronic disease.
4. Evidence-based programs can mitigate the negative impact of chronic diseases and related injuries, such as falls.
5. Evidence-based programs empower older adults to take control of their health by maintaining a healthy lifestyle through increased self-efficacy and self-management.
6. Evidence-based initiatives provide the greatest impact given available funding.

..... In hopes of becoming this new level of evidence based practice we started collecting data in 2012 with our first pilot study, collected participant self evaluations, and completed a research study in 2014.



PILOT STUDY 2012

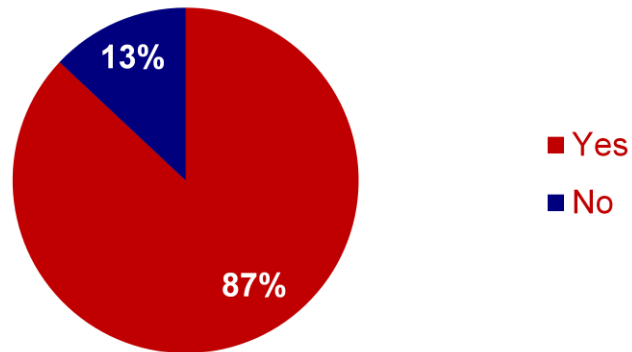
- Low income senior housing facility where residents primarily stay in their homes.
- We took them through the 16 week Young at Heart Program.
- Senior Fitness Tests were administered for pre and post testing.
 - Adherence Rate: 58%.
 - Participants lost an average of 3.1lbs.
 - Increased number of chair stands by an average of 4.
 - Upper body strength and balance, no significant changes.
 - Upper and lower body flexibility, no significant changes.
 - Participants on average completed the 8-foot up and go, 1.59 seconds faster than their baseline results.

1. We took a low income senior housing facility through the 16 week progressive Young at Heart program
2. The progressive program, slowly increases repetitions and quantity of exercises until the 12th week.
 - Week 1: 1 set of 6 repetitions of 10 strength exercises and stretches.
 - Week 12: 2 sets of 12 repetitions of the 10 strength exercises and stretches.
 - Week 16: Same as week 12, but challenges are added to the exercises, and extra balance activities are being incorporated into each class.
3. All participants performed baseline (pre-exercise) tests.
 - All participants were tested using the standardized senior fitness tests by Rikli and Jones.
 - At the conclusion of the 16-weeks all participants were tested on the same 7 fitness tests.
4. The results showed...
5. Despite our quantifiable findings, the group felt better and decided to continue the program at the Houser Glen Senior Apartments. We identified 2 instructors to take the training.
6. Limitations of this study were that trained professionals did not administer all of the 7 tests and participants may or may not have given 100% effort on their baseline testing and at the conclusion of the 16 weeks.



PARTICIPANT SELF EVALUATION 2014

Has Your Overall Mental Health Improved Since Participating in Young at Heart?

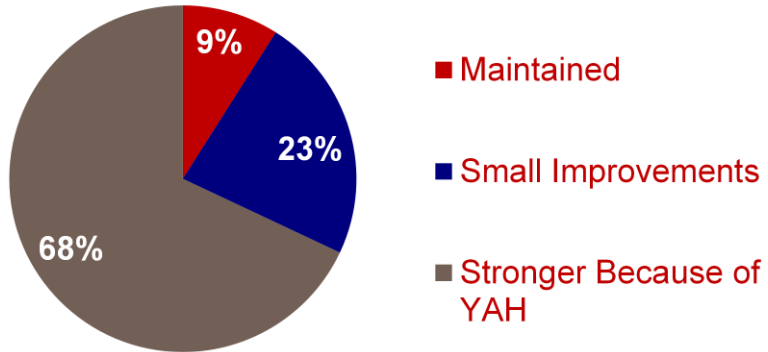


I.E. Depression, Social Interaction, etc.



PARTICIPANT SELF EVALUATION 2014

Change in Lower and Upper Body Strength Since Participating in Young at Heart





RESEARCH STUDY

Purpose

Was to compare balance performance, confidence and fall risk in subjects who participated in the Young at Heart Fitness Program for at least a year to inactive, age and sex matched, counterparts (CDA) who self-referred to balance screening to assess the risk of falls.

Subjects

Consisted of 19 subjects who participate in the Young at Heart Community Based Fitness Program in Stanislaus County and compared them to 19 age and sex matched individuals who do not exercise regularly and who were self-referred to a balance screening.

- Subject total: 38
 - 30 females and 8 males
 - Aged 63-84 years (74.2 ± 6 years)

Explain what CDA means.



NUMBER OF FALLS

- The participants began by filling out a health history questionnaire.
- The questionnaire asked, how many falls did they have in the last year.



Table 1: Number of Falls Comparisons Between Community Dwelling Older Adults Who Exercised (Young at Heart) and Those Who Did Not (CDA)

Group	Number of Falls	Mean \pm SD	SEM
Young at Heart (n=19)	5 (26.3%)	0.26 \pm 0.5*	0.104
CDA (n=19)	20 (63.2%)	1.05 \pm 1.0	0.235

Note: Values are means \pm SD, *p=0.004

Health History Questionnaire asked, How many falls have you had in the last year,

- 5/19 or 26.3% of the Young at Heart participants experienced one fall within the previous year
- 12/19 or 63.2% of the CDA fell at least once. which was significant (p=0.004).
- Of the 12 CDA who fell, 2 subjects had 3 falls, 4 had 2 falls, and 6 had 1 fall, for a total of 20 falls.



BALANCE EFFICACY SCALE (BES)

The Balance Self Efficacy Scale (BES) was administered to establish the level of confidence in the participants' ability to perform activities of daily living (ADL).



Table 2: Balance Efficacy Scale Comparisons Between Community Dwelling Older Adults Who Exercised (Young at Heart) and Those Who Did Not (CDA)

Group	Mean \pm SD	SEM
Young at Heart (n=19)	91.2% \pm 7.6%*	1.741
CDA (n=19)	80.3% \pm 12.2%	3.259

Note: Values are means \pm SD, *p=0.012

The BES is a self-reported questionnaire. Each question asks the participant how confident they feel doing a specific ADL on a scale of 0% to 100%

- A score of $\leq 50\%$ is associated with fall risk

The Results showed

- That the group responses were significantly different (p=0.012);
- both the exercisers and the non-exercisers self-reported confidence in not falling during ADL
- Exercisers (M=91.2% \pm 7.6 SD)
- Non-Exercisers (80.3% \pm 14.2 SD)
- Both percentages were above the 50% (which is associated with fall risk)



FULLERTON ADVANCED BALANCE (FAB) SCALE

- Fall risk was assessed by the Fullerton Advanced Balance (FAB) Scale (Rose, 2003).
- 10 balance activities.
- The subject received a score from 0-4 based on their performance on each test for a total possible score of 40.



Table 3: Fullerton Advanced Balance Scale Comparisons Between Community Dwelling Older Adults Who Exercised (Young at Heart) and Those Who Did Not (CDA)

Group	Mean \pm SD	SEM
Young at Heart (n=19)	31.2 \pm 4.3*	0.989
CDA (n=19)	27.6 \pm 7.0	1.606

Note: Values are means \pm SD, *p=0.039

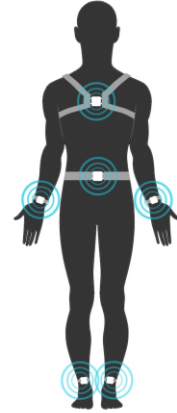
1. Tests included

1. Standing with feet together and eyes closed, standing on foam and on firm surface
 2. Reaching forward to grab an object
 3. Turning 360 degrees
 4. Stepping over a 6 inch bench
 5. Tandem walk and a few others.
2. The probability of falling increases by 8% with each 1 pt decrease in possible score.
 3. A score \leq 25 is associated with falls.
 4. The FAB paired group scores were significantly different
 1. Young at Heart M=31.2 \pm 4.3 SD (2/19 were below the score of 25)
 2. CDA 27.6 \pm 7.0 SD (7/19 were below the score of 25)
 3. These results were significant.

Rose, D (2003). *Fallproof! A comprehensive balance and mobility training program*. Champaign, IL: Human Kinetics.



APDM MOBILITY LAB™



Used to assess components of the Instrumented 25 foot Timed Up and Go (I-TUG) which included:

- Number of steps to complete the turn around the cone (NS).
- Turn time around the cone (TT).
- Time to complete a full sit to stand (SS).
- Sit to stand velocity of the trunk (SSV).
- Gait cadence (GC).

ITUG Test	Young at Heart	CDA	Mean ± SD	p value
TT (seconds)	1.80±1.32	3.00±1.32	-1.2±1.9	0.015*
NS (count)	6.63±0.90	7.11±1.70	-0.5±1.7	0.243
SS (seconds)	2.45±0.38	2.34±0.47	0.1±0.7	0.464
SSV (degrees/sec)	136.93±50.40	112.93±36.09	24.0±61.5	0.106
GC (steps/min.)	118.36±11.89	116.05±11.36	2.3±15.0	0.511

Note: Values are means ± SD, *Statistically Significant

- (Ambulatory Parkinsons' Disease Monitoring) Movement Monitoring Solutions,
1. As you can see, the Young at Heart participants performed better in all areas, however the only value that was shown to be significantly different between groups was in the Turn time around the cone (TT)



CONCLUSION

- Self-assessment (BES) is not as useful as actual measurements (FAB and ITUG TT) in determining an association with risk of falls in older adults whether they regularly exercise or not.
- Participants in the Young at Heart community based fitness program showed improved functional balance performance and lower risk of falls than their non-exercising counterparts.





YOUNG AT HEART FITNESS PROGRAM

- What is Young at Heart?
- Program Description
- Class Design
- Fidelity
- How it works
 - Master Trainers
 - Certified Instructors
 - Participants
- How to implement it in your community



Now it's time to learn more about the Young at Heart fitness program.

1. What is Young at Heart?
2. How the program is designed and the fidelity of the program
3. How to become a certified instructor and the participants.



YOUNG AT HEART FITNESS PROGRAM



Multicomponent, group fitness program:

- Improve function.
- Reduce the risk and number of falls.
- To help maintain independence and quality of life for those 50 years of age and older.

1. The Healthy Aging Association's YAH Program is a Multicomponent group fitness program that aims to improve function, reduce the risk and the number of falls and helps to maintain independence and quality of life for those 50 years of age and older.
2. The YAH Program was formed to address fall issues for the older adults in Stanislaus County in 2000 with only 4 classes.
3. When the YAH fitness classes were first implemented, they were designed to be short-term, 16 week classes for older adults to help improve function and reduce falls.
4. Participant feedback overwhelmingly indicated that the participants did not want the program to end, therefore the program was then extended and became ongoing.
5. The Young at Heart Fitness classes still follows the same 16 week progression for all new participants.



PROGRAM DESCRIPTION

- Functional exercise program.
- Sitting or standing (chairs without arms are available in every class).
- Utilizes rubber resistive tubing.
- **Focuses on:**
 - Building strength (8 major muscle groups).
 - Increasing flexibility.
 - Improving balance.
 - Reducing number of falls.





CLASS DESIGN

IMPORTANT REMINDERS



Design:

- 1 hour class (2-3 times a week with a day of rest between classes).
- Progressive training.
- Warm-up, strength training, stretching, balance exercises, chair sits and stands, and a cool down phase.

Fitness Check:

- Conducted at baseline and after 32 days of class to self-evaluate progress in strength, flexibility, number of falls, physical activity level, and cognitive changes.

NEW PARTICIPANT PROGRESSION

Week 1	Complete the Pre-Fitness & Balance Self Assessment (Yellow Form) All Exercises can be done sitting or standing. Only do 1 set of 6 repetitions (This can be achieved by alternating arms)
Week 2	Increase to 1 set of 8 repetitions
Week 3	Continue with 1 set of 8 repetitions All exercises should be in a <u>pain free</u> range of motion and correct form.
Week 4	Increase to 1 set of 10 repetitions
Week 5	Increase to 1 set of 12 repetitions
Week 6	Continue with 1 set of 12 repetitions If performing exercises sitting, try and stand instead.
Week 7	Increase to 2 sets of 6 repetitions
Week 8	Increase to 2 sets of 8 repetitions
Week 9	Increase to 2 sets of 10 repetitions
Week 10	Increase to 2 sets of 12 repetitions
Week 11	Continue with 2 sets of 12 repetitions Instructor begins adding holds and challenges.
Week 12	Continue with 2 sets of 12 repetitions
Week 13	Continue with 2 sets of 12 repetitions Participants should be encouraged to increase resistance.
Week 14-15	Continue with 2 sets of 12 repetitions
Week 16	Continue with 2 sets of 12 repetitions Fill out post Fitness and Balance Assessment (Yellow Form)



FIDELITY

Instructor Manual:

- 47 page manual.
- Step by step description of:
 - Warm-up.
 - Basic 10 exercises and stretches.
 - Balance options.
 - Approved exercises for the second set (only after the 16 weeks).
 - Cool down.
- Over 10 different routines to choose from, but always have the same basic 10 exercises in the first set.

LATERAL SHOULDER RAISE

Primary Muscle Group: Deltoids



FUNCTIONS: Moves the arm away from the body (forward, side & backwards)

REMINDERS FOR THIS EXERCISE:



- CAN BE DONE SITTING OR STANDING
- KEEP WRISTS STRAIGHT AND DO NOT SHRUG THE SHOULDERS
- SINGLE JOINT: MOVEMENT OCCURS ONLY AT THE SHOULDERS

SITTING **STANDING**

1. Place your tube securely under both feet and grasp the tube handles in each hand. In good posture, place feet hip width apart, arms at your sides with your palms facing toward the body.



2. Keep both arms straight, elbows not locked, lift your arms out to the side to the point of tension, but no higher than shoulder height. **HOLD** briefly, then slowly return to starting position.



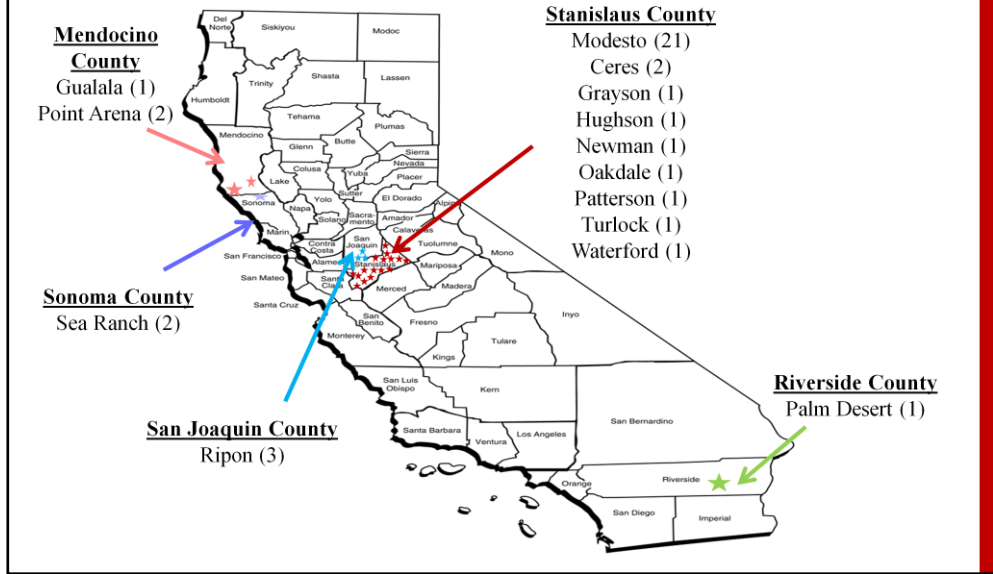
3. Repeat 6-12 times.

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*Each YAH instructor literally follows the binder and brings their own personality to the class.



YOUNG AT HEART COMMUNITY CLASSES



For a total of 38 class locations in California. All of the class locations are held in donated spaces, such as community centers, churches, community clubhouses, skilled nursing facilities, assisted living facilities, mobile home parks, senior apartments, hospitals, Junior colleges, and conference centers.



HIERARCHY

Young at Heart Lead Trainers

Young at Heart Master Trainers

Young at Heart Instructors

Young at Heart Participants



PARTICIPANTS



- 60 years of age or persons with disabilities.
- No cost to join.
- Some classes have donation boxes.
- Register each fiscal year.

Incentives:

- Resistance Tube- *Free after completing 12 class sessions*
- Young at Heart T-Shirt - *Free after completing 32 class sessions*

Optional Items:

- Young at Heart Stress Balls
- Challenge Loops, Stretch Straps
- Young at Heart Participant Manual (optional: fee/no fee)

In 2013-2014, Stanislaus County had 1,466 unduplicated participants.

50 and over can participate in program, but must purchase their own tube.



CERTIFIED INSTRUCTORS



Certification Process:

- Complete an 8 hour training led by a Certified Young at Heart Master Trainer.
 - Instructor Training Binder.
 - Learn how to navigate through the manual.
 - New participant progression.
 - Learn modification and challenges.
 - How to implement a second set after the 16 weeks, for variety.
 - Access to online class forms, trainings, and newsletters.

Certification Renewal:

- Attending at least two of the three annual meetings led by a Master Trainer.
- Current CPR Certification.
- Annually Evaluated by a Certified Young at Heart Master Trainer, while leading a class.

We currently have 84 Certified YAH Instructors. These instructors are the ones leading the classes in the community.



CERTIFIED MASTER TRAINERS

Certification Process:

- Complete a 10 hour training led by a Certified Young at Heart Lead Trainer.
 - Master Trainer Binder.
 - Recruit process for potential instructors.
 - How to train Certified Young at Heart Instructors.
 - Learn modifications and challenges.
 - How to implement new class locations.
 - Identifying partners and sponsors.



Certification Renewal:

- Participate in quarterly conference calls.
- Annual renewal fee.
- Provide 3 instructor trainings a year.

We currently have 2 Certified Master Trainers.

- Qualifications:
 - AA or BA in any health related field and/or experience and interest in working with older adults.
 - CPR certification
 - Minimum of 2 years experience in fitness programs or related field, preferably with older adults.



MASTER TRAINER

Master Trainer Certification	Cost
10 HOUR TRAINING (TWO DAYS AT 5 HOURS EACH)	\$1,500.00
MASTER TRAINER BINDER	
DIGITAL COPY OF IMPLEMENTATION MATERIALS	
LICENSE FEE	
DIGITAL BI-MONTHLY INSTRUCTOR NEWSLETTERS (6 ANNUALLY)	
HANDOUTS AND AGENDA'S FOR 3 ANNUAL INSTRUCTOR MEETINGS/TRAININGS	
Annual Renewal Fee	Annual Fee
LICENSE AND MASTER TRAINER CERTIFICATE RENEWAL	\$170.00
DIGITAL BI-MONTHLY INSTRUCTOR NEWSLETTERS (6 ANNUALLY)	
HANDOUTS AND AGENDA'S FOR 3 ANNUAL INSTRUCTOR MEETINGS/TRAININGS	
TECHNICAL ASSISTANCE AND UPDATED MATERIALS	

***ADDITIONAL FEES VARY:**

- Training in Modesto, CA; lodging, food, and travel not included.
- Group training outside of Modesto, CA; Facility for two day training and travel for two YAH master trainers must be covered by the hosting agency/agencies.
- Pricing will vary on attendees at training.
- Discounts will be given to organizations sending more than one Master Trainer.



OTHER COSTS TO CONSIDER

Marketing

Flyers

Presentations

Equipment

REQUIRED

Resistance Tubes
Stress Balls

OPTIONAL

Challenge Loops
Stretch Straps

Evaluation

Post Fitness
Check

Expansion to
other sites

Equipment:

Equipment must be unified among all classes so participants can transition to any class site with ease. This will be covered at the Master Training.

- Discounted price for attending today's session.
- Please take flyer with you to get discount price. 30% off Master Training. \$450 off.



YOUNG AT HEART LEAD TRAINERS

Certification Process:

- Complete a 12 hour training led by Healthy Aging Association's Fitness Program Manager and/or Coordinator.

Qualifications:

- M.A. or B.A. in Kinesiology or any health related field.
- Minimum of three years as a Young at Heart Master Trainer.



We currently have 2 Certified Lead Trainers.



WE COVERED

1. The older adults fitness program (Young at Heart) that has been shown to reduce the number of falls when compared to non-exercising, age and sex matched counterparts.
2. The components and the design of the Young at Heart fitness program.
3. Information, resources, and support to take back to your community on how to take the Young at Heart Master Trainer Certification, or identify a potential Master Trainer, so it can be implemented in your community.

Healthy Aging Association's

Young at Heart Fitness Program

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