Status

- Growing population of baby boomers who are living longer but are not physically active (77% over the age of 65).

- According to the text, older adults have a mistaken belief that physical activity is not safe for them.

- When physically active they are overly concerned with safety
  - Due to the “fear of fall.”
  - Memory loss
  - Vision loss
  - Possible exercise contraindications, such as orthopedic limitations due to knee replacement or injury
Most Americans maintain a healthy life for only about 85% of their life.

Leading causes of death are largely related to lifestyle.

Genetic factors have the greatest influence on length of life; environment and genetic factors govern quality of life.

Exercise is an important factor in maximizing physiological and cognitive function throughout life.
Status

- Overwhelming majority of older adults can engage in physical activity.

- Identifying and developing effective long term physical activity programs for older adults is the challenge for personal fitness trainers and health professionals.
Determinates & Correlates

- Psychological factors
- Primary doctor & Health care provider
- Physical activity intensity
- Group- and home-based interventions
- Disease management
Psychological determinates and correlates

- Aged people with higher levels of self-efficacy to improve their health are more active (Lee & Lafferty, 2006)
- Attitude toward physical activity
- Social support from family and friends
- High desire to maintain “independent living.”
- Highly motivated to maintain health
Prescription of Exercise

- Intensity of exercise is known to be the key determinate in the slowing the rate of decline in one physical abilities due to age.

- Strength training for the purpose of maintaining independent living is an essential component of an older adults physical activity program.

- Combining home-based and group-based interventions works best with the older adult population*.

- ACSM suggest low- to moderate intensity exercise and/or Physical activity.

- CDC recommends that aged population become involved in one hours of physical activity per day at the level of brisk walk.
Reducing the fear of injury and falling

- Low- to moderate intensity exercise or PA activities has a lower incidents of injury

- Balance is related to core strength that reduces swaying that is primary cause of falling in the older adults.

- Assisted training devices such as stand alone weight machines, railing in exercise rooms, mirrors, harnesses, treadmills, stair steppers, etc.

- Educating the older adult in how to exercise or how to perform the exercise.

- Physical environment where exercise is to be performed open and free of obstacles that may cause one to fall.
Barriers

- Age effects (Ageism)
- Fear of injury or falling
- Accessibility to facilities
- Lack of social support for the aged
- Knowledgeable personal in how to work with older adults.
Access to PA Facilities

- Transportation
- Cost
- Scheduling
- Number of senior programs
Summary

Safety and reducing the fear of falling are key factors in retention and adherence in older adult

As in all groups start with low intensity PA and progress to higher levels

Access to PA facilities is a major barrier for older adult.

Transportation to and from facilities should be convenient and at a low cost.

Home based and group based physical activity programs are provided.

Working with the older adults requires different communication and feedback strategies as compared with the young or adult population.
Physical Activity Determinates, interventions, and barriers of Childhood & Adolescent
Limitation of this Presentation

- Based on instructors review of the materials about children and adolescents involving 20 studies or reviews from 1990-2007.

- The focus of this presentation are on determinates and interventions that have been reported in studies included in the instructors review of literature specific to children and adolescents.
Status

- CDC (2002) reported that the number of overweight children 6-11 doubled in the past 2 decades

- Rates of minorities are even higher
  - 43% of Mexican-American boys and girls are overweight or obese
  - 31% of African American boys and 40% of girls are overweight or obese
  - 29% of White American boys and 27% of girls are overweight or obese

- CDC (2002) reported that the number of overweight adolescents 12-19 tripled in the past 2 decades
Children and adolescent level of PA and exercise have declined over the last 2 decades.

Fewer children and adolescents today achieve ACSM guidelines of daily exercise that includes 30 minutes of moderate to vigorous intensity per day.
Determinates in Children

- Enjoyment of PA
- Parental perception of barriers to exercise behavior
- Friend and family modeling/support
- Number of exercise-related pieces of equipment at home
- Parental modeling of exercise
- Amount of time spent playing near their home
- Parents obesity level/overweight
- Time spent outdoors
Interventions for Children & Adolescents

- Create healthy schools ([www.cdc.gov](http://www.cdc.gov))

- Create healthy communities*

- Socialization process in the family & Family based approach

- Nutritional interventions
  - Restrict access to certain foods
  - Eat dinner with their families*

- School-based interventions*

- Safe neighborhoods & make play spaces safe

- Find ways to increase their energy expenditure

- Computer games (e.g., Wii) and Pedometer use

- Increase the amount of time playing outdoors
8-18 year olds spend time on computers and watching TV is about 20%.

Cross sectional study among 11 year old children in 9 countries (N = 12538) by Velde, S.J. & et al., 2007).
- High TV & PC viewers (boys and girls) had increased risk of being overweight.
- Girls seem to be at a higher risk than boys.

Longitudinal data of Adolescent Health (N=9155) by Boone, et al., 2007).
- Adolescent viewing time hours was highly positively correlated to the incident of obesity.
- More in female than the male.
Factors related to Viewing Time

- Boys and girls with siblings were more active and have less viewing time levels than boys and girls without siblings.
  - As the number of siblings increased in the family, the viewing time levels decreased
  - The presence of a brother appears to be more important for boy’s PA level

- Girl from single-parent home have the highest viewing time levels.

- Parents who are physically active positive affect the child’s PA levels.
Adolescent Barriers

- Academic responsibilities (Home work)
- Parents & home structure
- Neighborhood & Safe play spaces
- Age (direct relation between motor skill competency and being active)
- Access to PA facilities
- Cost
- Quality of Physical Education in the school
- Number of after school PA programs
- TV & PC viewing time
- Transportation
- Number of youth programs
- Climate
Interventions in Adolescents

Provision for transportation*
Participation & attitude in/of physical education
Use of community recreation center*
Being a member of a sport team*
Lower crime levels in the adolescents neighborhood*
Parents encouragement and participation in PA
Peer support
Time spent outdoors*
Access to physical activity facility*
Enjoyment of the activity
Gender bias
Summary

- Prescription of exercise in children and adolescent population using CDC or ACSM are not as defined when compared to adults
  - Moderate to vigorous activity; 30 minutes per day
  - Activity or exercise needs to be enjoyable
  - Increase energy expenditure

- Family based determinates and interventions seem to have the greatest impact
  - Nutritional engineering
  - Increase PA activity time
  - Modeling effect

- Physical education can be a very effective in and out of school intervention but few use it or the program is not implemented properly.

- Environmental interventions seem to be the major focus of resources to increase exercise in children today.

- The focus of most of the resources associated with most intervention is given to overweight children with little given to the adolescent population.
The End