

Recovering From Cardiac Events

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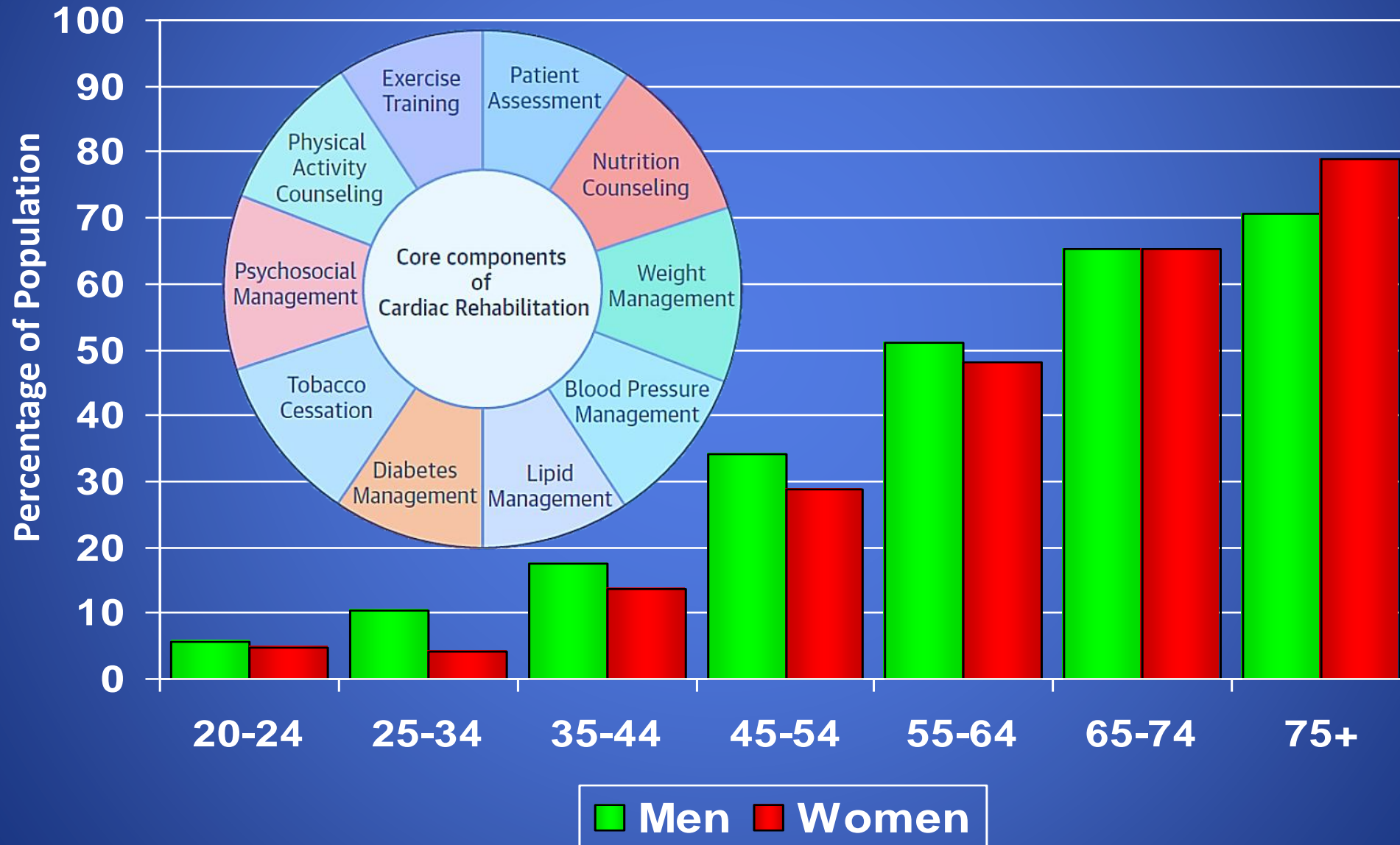
Cardiac Rehabilitation:

Class IA AHA/ACC Recommendation

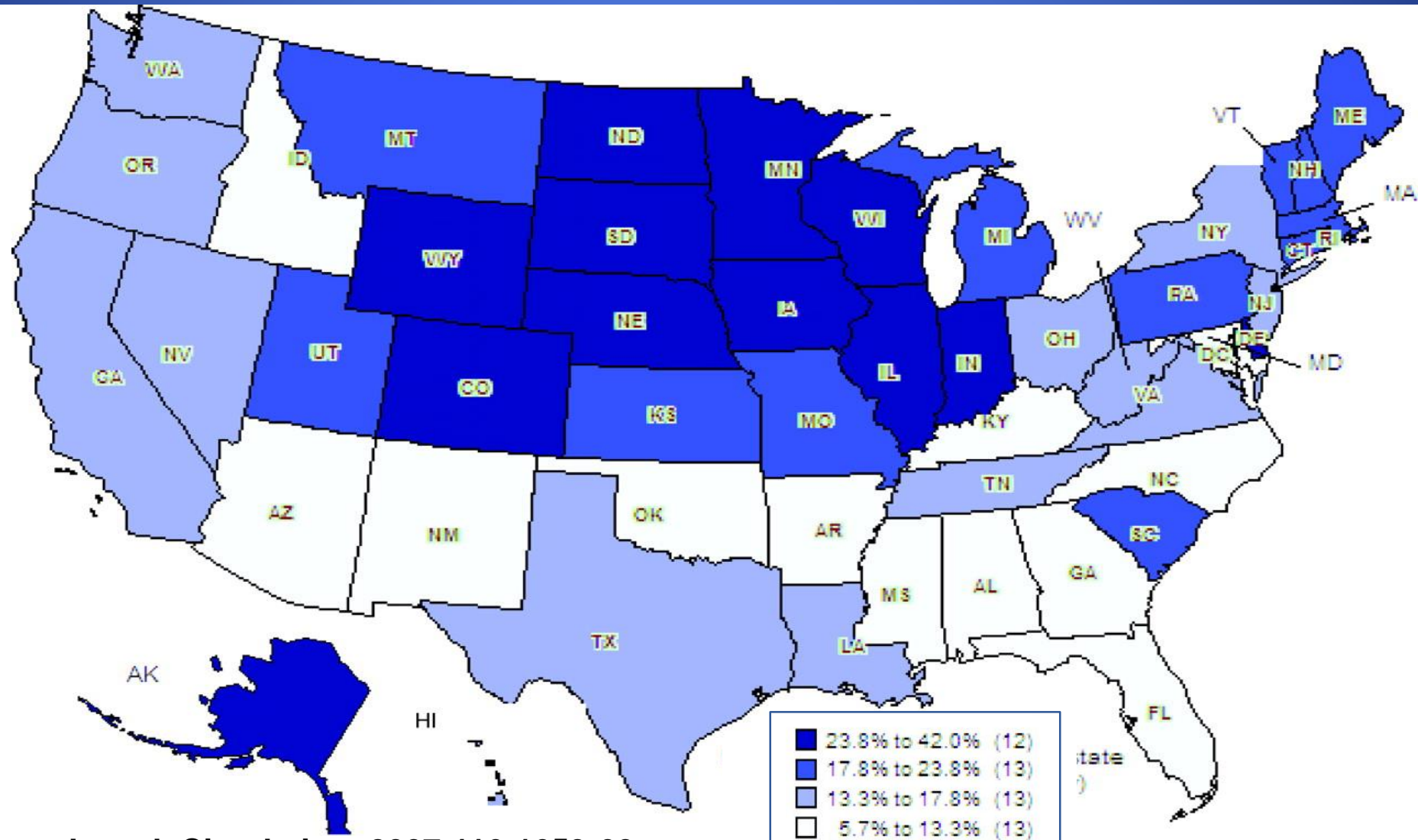
- **Coronary Heart Disease**
- **Bypass Surgery**
- **Heart Failure with ↓EF**
- **Valvular Heart Disease**
- **Transplant**
- **PAD**



↑ Cardiovascular Disease with Age



Low Utilization of Cardiac Rehabilitation Among Eligible Medicare Patients



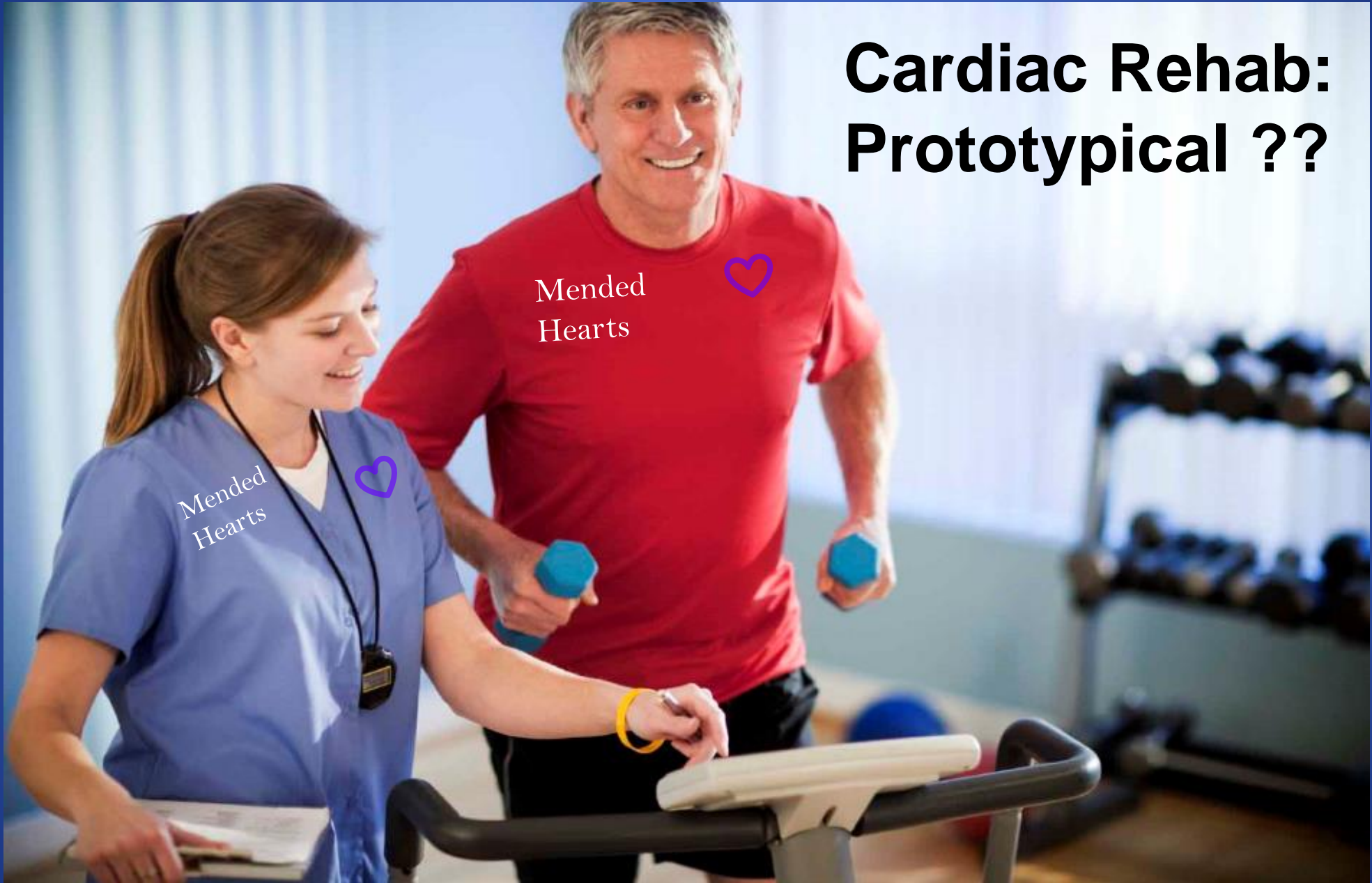
Suaya J, et al. *Circulation*. 2007;116:1653-62

Cardiac Rehab: Prototypical ??

Mended
Hearts




Mended
Hearts



Typical!



A photograph of three elderly men in a physical therapy or gym setting. One man on the left is seated on a NuStep exercise bike. A man in the center is seated in a chair holding two blue dumbbells. A man on the right is seated in a chair with his arms raised, holding a purple dumbbell. In the background, another man stands near a window with various exercise balls on the sill. A large red circle is overlaid on the image, containing a list of medical conditions.

CHD
Heart Failure
Valvular Heart Dz
Arrhythmia
PAD

A photograph of three elderly men in a physical therapy or gym setting. One man on the left is seated on a stationary bike. A man in the center is seated in a chair holding two blue dumbbells. A man on the right is seated in a chair with his arms raised, holding a purple dumbbell behind his head. In the background, another man stands near a window with various exercise balls on a table. The scene is brightly lit with natural light from the windows.

CHD
Heart Failure
Valvular Heart Dz
Arrhythmia
PAD

COPD, PUD
Diabetes, Anemia
Macular degeneration
Parkinson's Disease
Cognitive decline
Depression...



Mobility, Independence

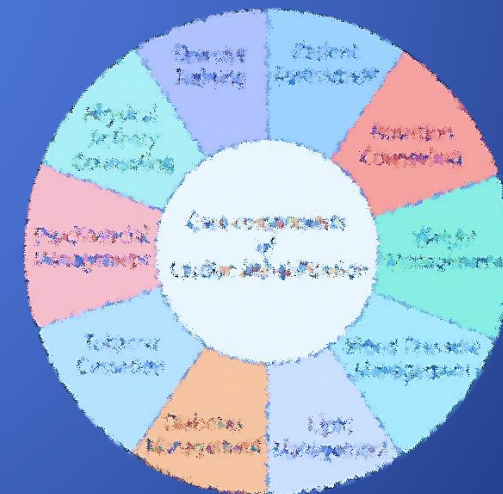
- Multimorbidity
- Frailty
- Polypharmacy
- Cognitive Limits





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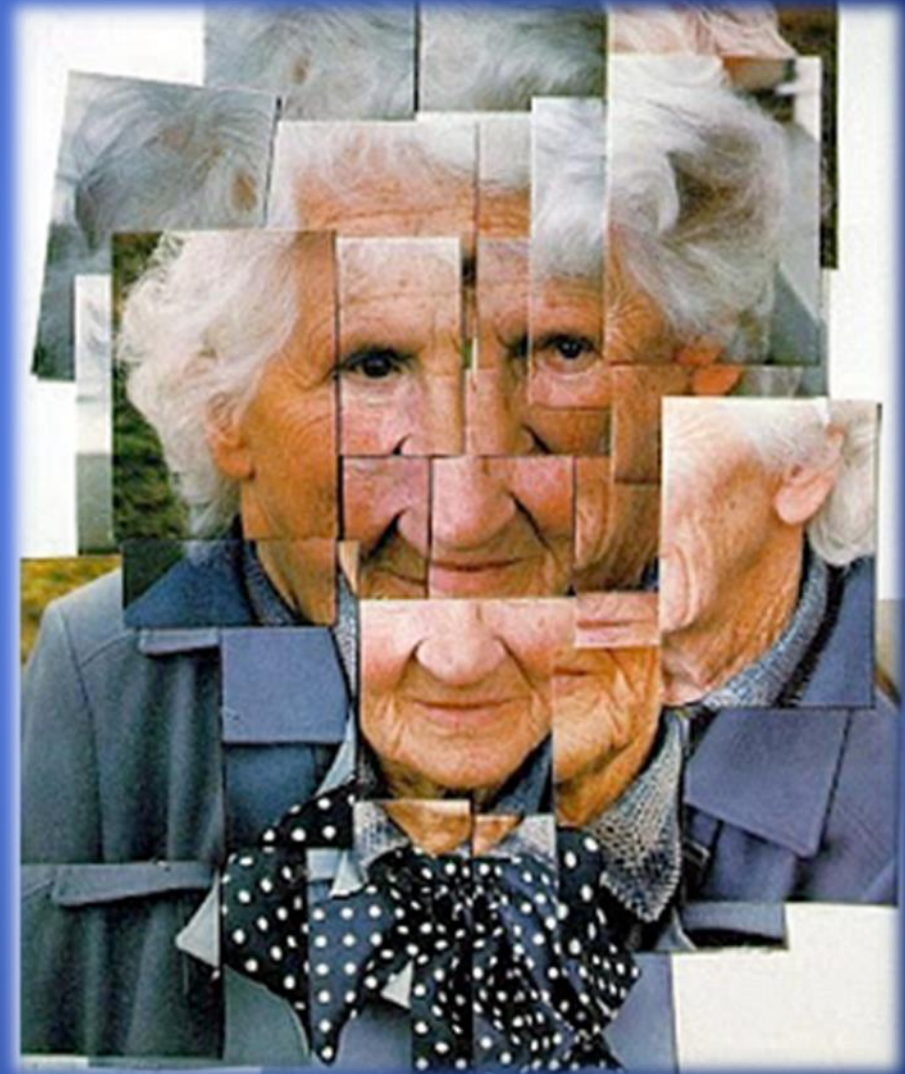


Post-Hospitalization Syndrome

- Acute Morbidities, Procedures
- Deconditioning, Delirium
- Medications, Sedation
- ↓Nutrition, Dehydration
- ↓Sleep, ↑Pain

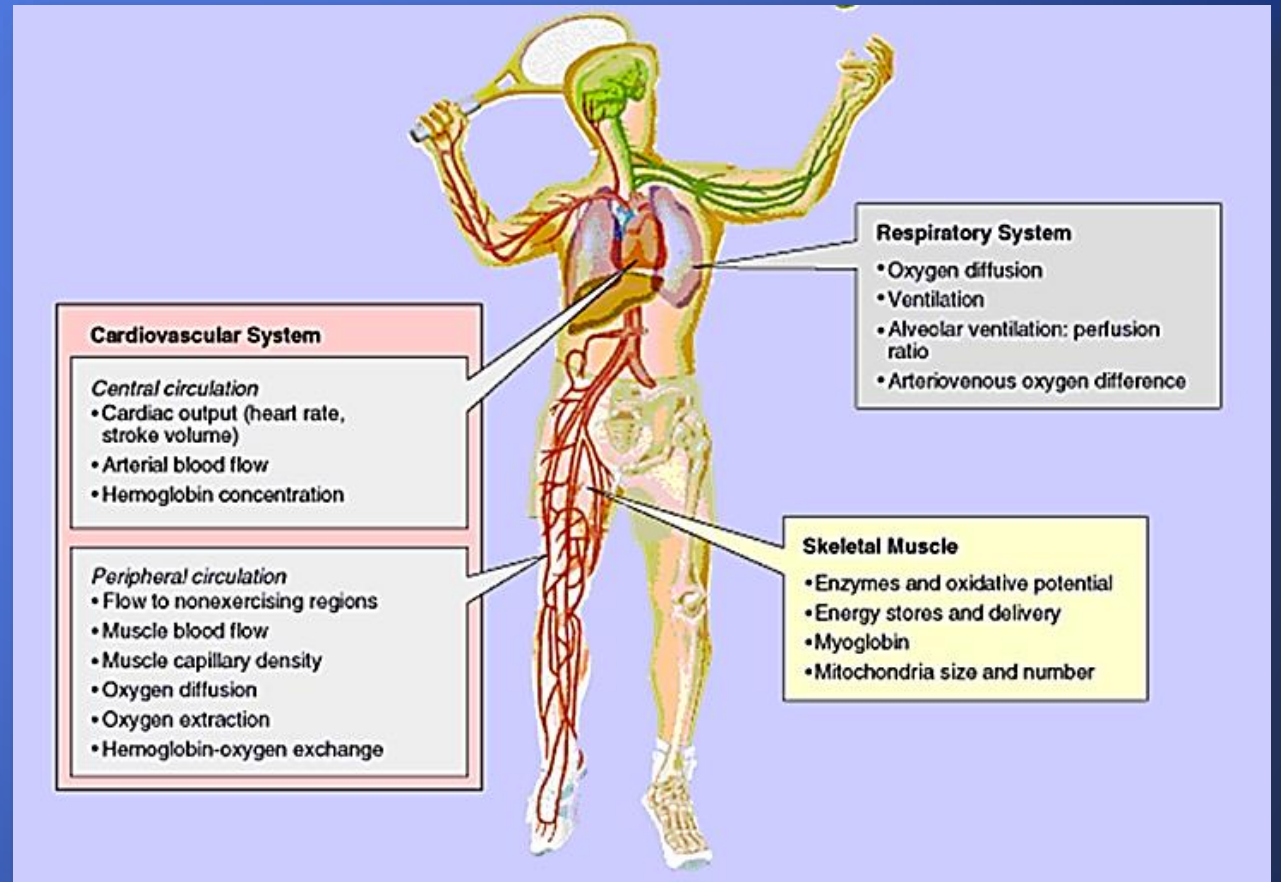
Aligning CR With Needs of Older Adults with CVD

- ↑ Multimorbidity/Medications
- ↑ Sarcopenia, Gait disturbance, Imbalance
- ↑ Falls, exhaustion
- ↓ Cognition (executive declines, ↑confusion)
- ↓ Self-confidence
- ↑ Depression
- ↓ Vision, hearing
- ↓ Nutrition



Cardiorespiratory Fitness

- The ability of the lungs, heart, and blood vessels to deliver adequate oxygen to the cells to meet the demands of prolonged activity
- Widely regarded as the most important component of physical fitness and indicator of overall health.
- Application less meaningful amidst functional deterioration of aging.



MACRO

- **M**odified **A**pplication of **C**ardiac **R**ehabilitation in **O**lder Adults
- National Institute on Aging RFA
- Enhanced transitions from hospitalization to independence and self-efficacy.

Aligning CR with Contemporary Patient Priorities

- Expanding the concept of risk:
 - Cardiac, comorbidity, function, psychosocial
- Expanded models of implementation:
 - In-patient and out-patient (site-, home-, and hybrid-based)
- Expanded concept of medication therapeutics:
 - Rationale for aggressive regimens coupled with deprescribing
- Expanded concept of behavior reinforcement:
 - Enhanced Medical Rehabilitation

Summary

- Aging biology → CVD in a context of clinical complexity
- Recovery is integrally affected by geriatric domains.
- MACRO:
 - Focus on Risk, Implementation, Medications, and Motivation to enhance transitions back to home and independence.

Some Research Questions

- How to integrate broader stratification and treatment of geriatric risks as part of acute cardiovascular care?
 - Patient priorities extend beyond disease-based priorities.
- How to initiate cardiac rehabilitation as an inherent part of acute care and without prolonged delays?
- How to overcome logistic limitations to cardiac recovery (e.g., access, safety)?