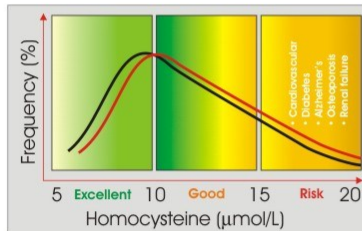


## Homocysteine, Serum

### An Independent Risk Factor for Cardiovascular Diseases (CVD)

#### Mediator or Biomarker of CVD ?

- Elevated homocysteine (100- 500 micromoles) homocysteine plays a causal role in the development of cardiovascular disease
- In advanced disease, homocysteine may be a marker and not a mediator



#### Homocysteine Levels and Mortality

Hcy level (µM)	Mortality Ratio
9.0 - 14.9	1.9
15.0 - 19.9	2.8
>20.0	4.5

(p=.02)  
Nygard, o. et al. (1997) N. Engl.J.Med. 337:230-6

#### Homocysteine : Also a Biomarker for Dementia, Alzheimer's Disease and Complications of Pregnancy

(The color-shift from green to red indicates the increasing urgency of clinical decision making and therapeutic actions)

#### Recommendations for Homocysteine Testing by American Heart Association:

- Individuals that are at risk for developing cardiovascular disease
- Younger individuals, as treatment of hyperhomocysteinemia at young age may be beneficial
- Elderly population, as homocysteine is a risk factor for cognitive dysfunctions
- Pregnant women who suffer from early-onset pregnancy complications
- Siblings of high- risk patients



Card

(American Association for Clinical Chemistry, 2009: Interview with Donald W. Jacobsen on Total Plasma Homocysteine)