

# Ergonomic Wheelchair for Improved Shoulder Biomechanics



## Minneapolis VA Health Care System

### Why this research is important:

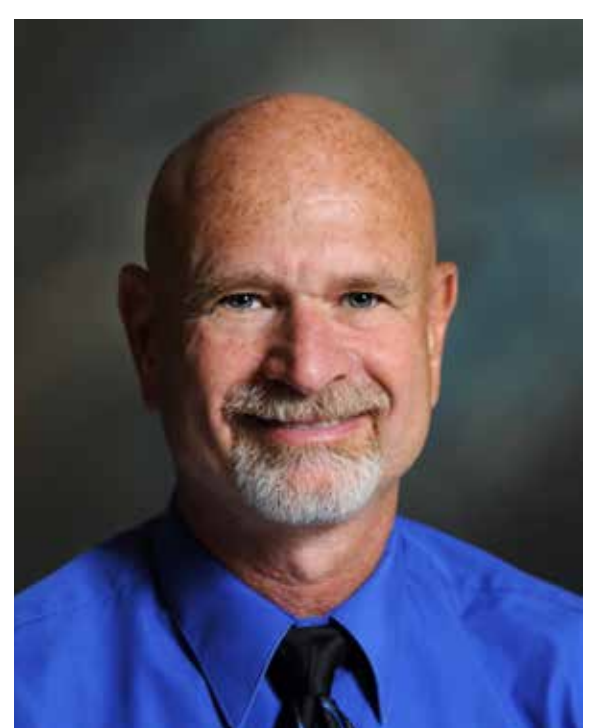
Current manual wheelchairs have hand rims connected directly to drive wheels, requiring their users to reach back to push them. Shoulder problems are a major problem for manual wheelchair users.

### Summary:

The VA MADE Program has developed an ergonomic wheelchair that couples the hand rims to the drive wheels using a chain or belt drive. This system allows the hand rims to be placed in a more ergonomic position for the shoulders. The hand rims are also removable for unobstructed transfers.

### How the research will improve Veterans' lives:

Veterans who use the ergonomic wheelchair should have fewer shoulder problems, including reductions in shoulder pain. The ergonomic wheelchair allows the VA wheelchair clinician to change gearing to meet the individual needs of each Veteran wheelchair user. Future systems may also allow shifting of gears "on the fly."



Dr. Gary Goldish



U.S. Department of Veterans Affairs

Veterans Health Administration  
Office of Research & Development