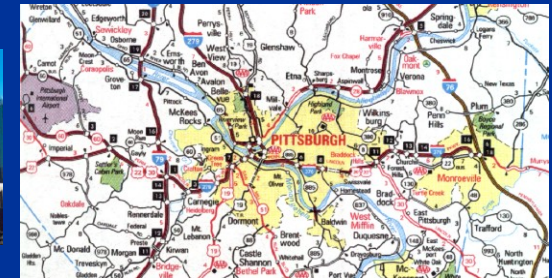


Een Sabbatsverlof?

Wat is dat nu?



sabbatical



music



- ✦ 22 juni - 4 oktober 2002
- ✦ Human Engineering Research Laboratories, RST, SHRS, University of Pittsburgh, Pennsylvania, USA

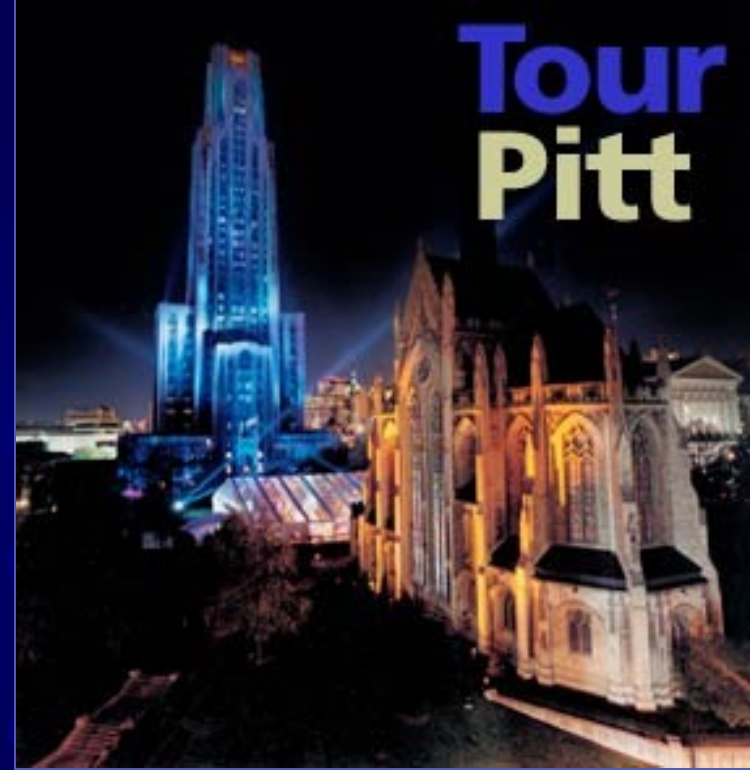
Waarom?



- ★ 'Iets nieuws leren'
- ★ 'Opfrissen'
- ★ 'Afstand nemen...'
- ★ 'Internationale orientatie'
- ★ 'Even aan de druk van alledag ontglippen'
- ★ 'Ergens anders in de keuken kijken'
- ★ 'Nieuwe ideeën opdoen'
- ★ 'Nieuwe contacten leggen'

Hoe?

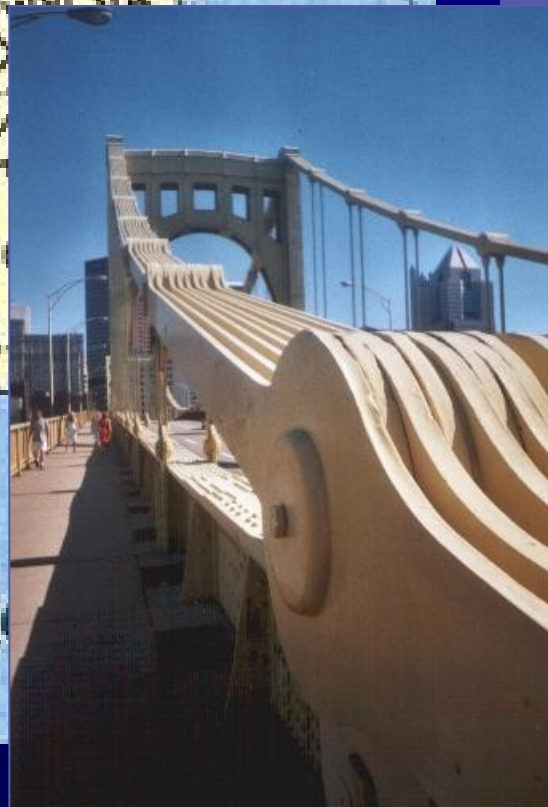
Tour
Pitt



- ★ Mobiliteitsplan
- ★ Regeling Sabbatsverlof (1999)
- ★ ADV-regeling
- ★ Internationalisering

- ★ \$ Steun FBW
- ★ Inpassen in verplichtingen O&O
- ★ Overnemen taken door collega's

- ★ Steun te bezoeken lab/universiteit ?!
 - ★ \$, visum, huisvesting, vervoer, werkplek etc
 - ★ \$: NWO, Nuffic, Fonds



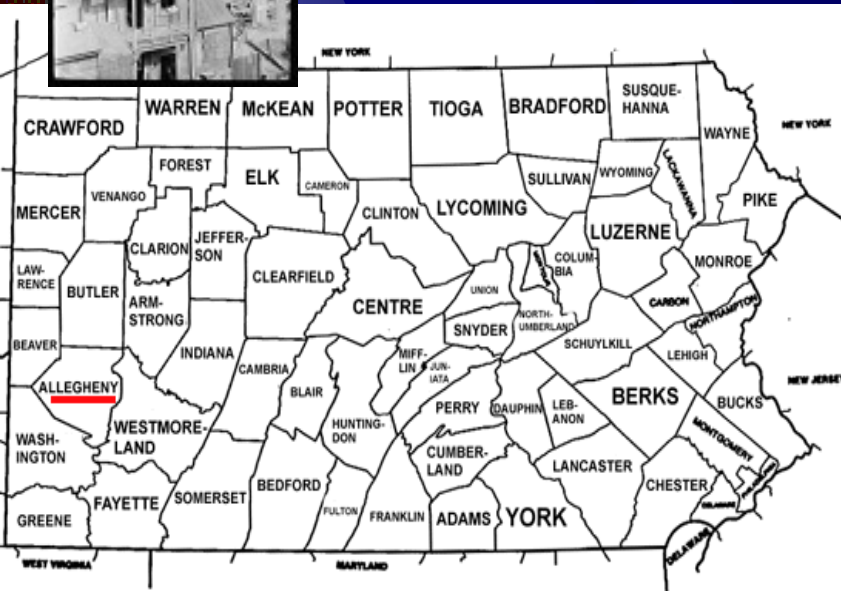
NO, Groen, dunbevolkt, Amish land.....Allegheny gebergte

Native Indians



Mijnbouw, staal- & glasindustrie.....

'Steel / Iron city', Smoke city



Panthers, Steelers,
Pirates, Penguins



Studentenstad,
Cultuurstad,
Warhol, Mariss
Janssons

Western PA, relatief oude
stad, historisch besef, vitaal



burgh
oods

Waar? Pittsburgh, PA

- ★ 334.563 inwoners; 67% blank, 55miles², Temp: Jan: 33F; July: 83F
- ★ Steel City ----->>
- ★ Three rivers, 600 bridges
- ★ 130.000 studenten
- ★ 'College City'
- ★ Carnegie Mellon, University of Pittsburgh + 13 (40)



PITT 2002



- ☀ Medische Industrie
- ☀ Kennisindustrie
- ☀ Biomedisch
- ☀ Artificial organ/transplant
- ☀ Informatie & Robotica



Waar?

University of Pittsburgh, Pitt, PA

★ 1787

- ★ 1 van 13 (40) colleges
- ★ Public (k\$ 10-20/jr)
- ★ 5 campus locaties
- ★ Studenten: 32.600
- ★ Faculty & Staff 10.400

★ UPMC (4.3 \$bil)

- ★ UPMC Health System
- ★ 30.000 staff & 1700 physicians
- ★ 19 ziekenhuizen, 300 behandelloc.
- ★ centrum van biomedisch
& -technologisch onderzoek
- ★ 17/18e plaats USA (60- [3000])



School of Health & Rehabilitation Sciences (1)

- ★ Faculty of Health Sciences (schools: tandh, geneesk, public, nursing, pharma, reha)
- ★ Undergraduate, masters, doctoral
- ★ 60 vaste fte (deels 80% 3e grant!)
- ★ Programmes School also:
 - ★ Athletic training/sports medicine
 - ★ Emergency medicine
 - ★ Rehabilitation Science & Technology



School of Health & Rehabilitation Sciences (2)

☀ Departments

- ☀ Clin Dietetics & Nutrition (& Sports medicine)
- ☀ Communication Science & Disorders
- ☀ Health Management
- ☀ Rehabilitation Science & Technology
- ☀ Occupational Therapy
- ☀ Physical Therapy



School of Health & Rehabilitation Sciences (3)

- ★ Sterke binding met Klinische & Technische toepassing
- ★ Sterke & multidisciplinaire samenwerking (UPMC, Engineering)
- ★ RERC's: wheeled mobility & seating, wheelchairs, transportation & safety
- ★ Center for Assistive Technology
 - ★ Neuromuscular Research Lab*
 - ★ Musculoskeletal Research Center
 - ★ Sports Medicine Center (*)



Department of Rehabilitation Science & Technology

- ★ Adjunct associate professor
- ★ A4 concurrent
- ★ 80% grant
- ★ 2 RERC's; VA/Pitt
- ★ 25 studenten (MsC & PhD)
- ★ 25 staff/faculty
- ★ PhD # aio-schap
 - ★ Undergraduate program: occ ther, phys ther, reh eng/techn
 - ★ Graduate program: Rehab eng & Tech, Rehab Sci



Human Engineering Research Laboratories - funding

- ★ VA center of excellence - core funding
- ★ University of Pittsburgh Model center for spinal cord injury – core funding
- ★ 80% grant-based



Human Engineering Research Laboratories - labs

- ✦ Activities of Daily Living Laboratory
- ✦ Assistive Technology Evaluation Laboratory
- ✦ Biomechanics & Neuromotor Control Lab
- ✦ Design & Prototyping Lab
- ✦ Human Engineering Lab
- ✦ Physiology Lab
- ✦ Robotics Lab
- ✦ Seating Lab
- ✦ Telerehabilitation Lab



Center for Assistive Technology

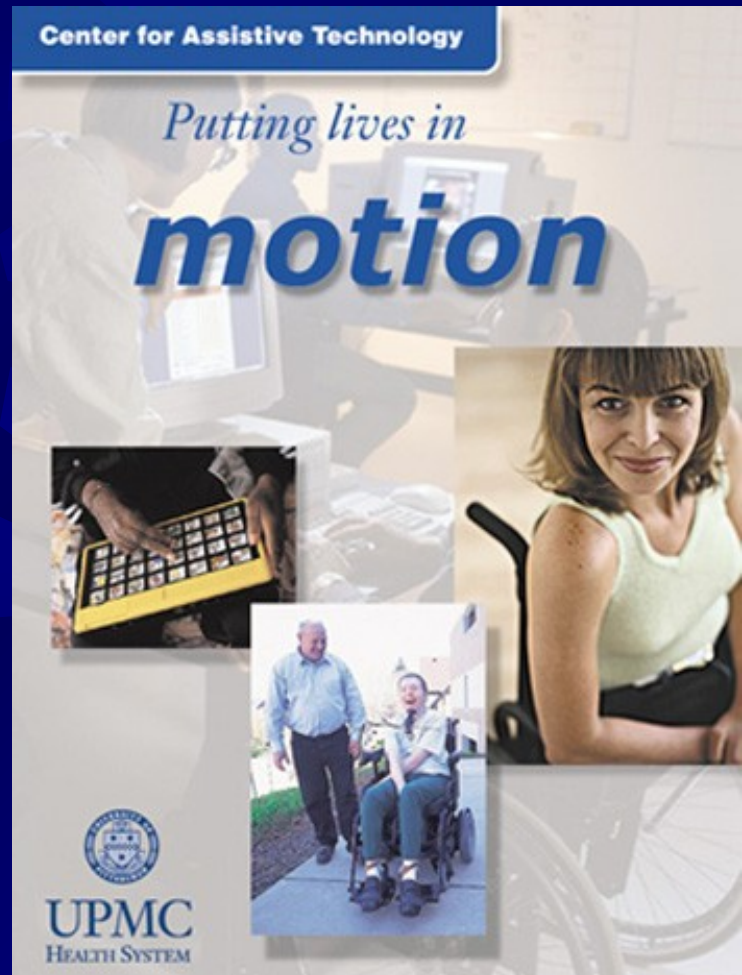
- ★ UPMC

- ★ Information

- ★ Provision

- ★ Optimization

- ★ Rehab phys, Occ ther,
Phys ther, Reh eng





HERL:

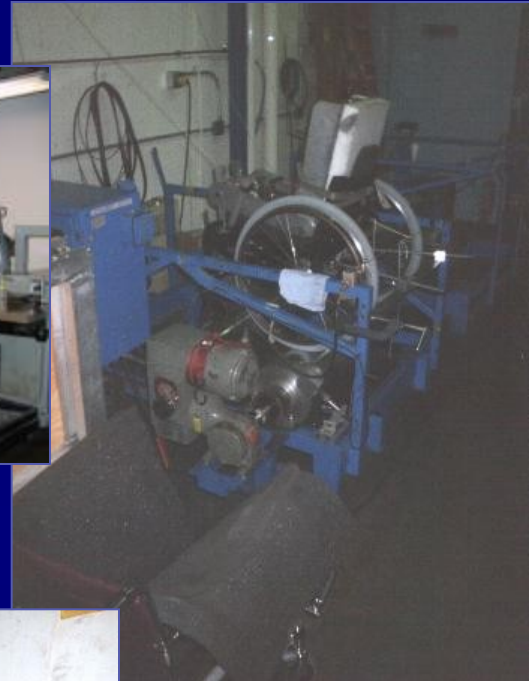
Product development, design, research,
(clinical) application, bio-engineering,



context of rehabilitation



Durability & Functionality of assistive technology

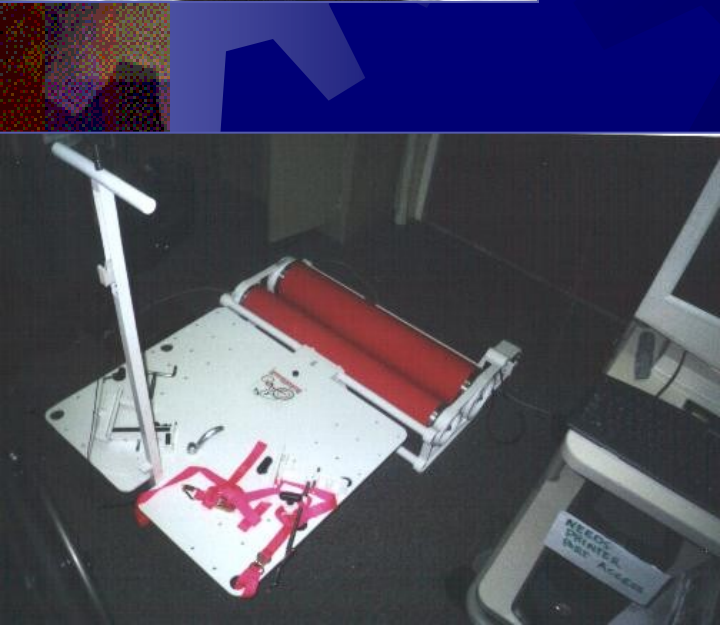




Innovation, design:
Robotics,
Manipulators, wheelchairs

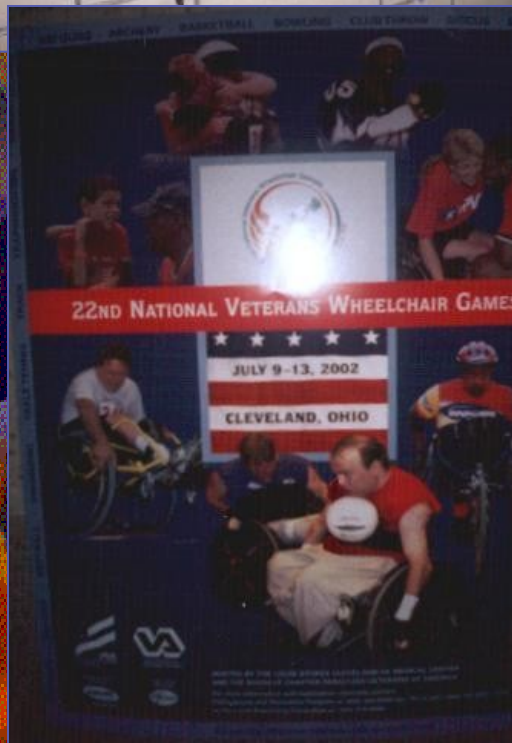


Biomechanics, assistive
technology & exercise
(Measurement) technology
design & development





Wheelchair propulsion
biomechanics



Mechanisms of overuse in SCI



Gedaan? (1)

- ✦ Site seeing
- ✦ Basketball + Rolstoelbasketbal
- ✦ Chronisch vakantiegevoel



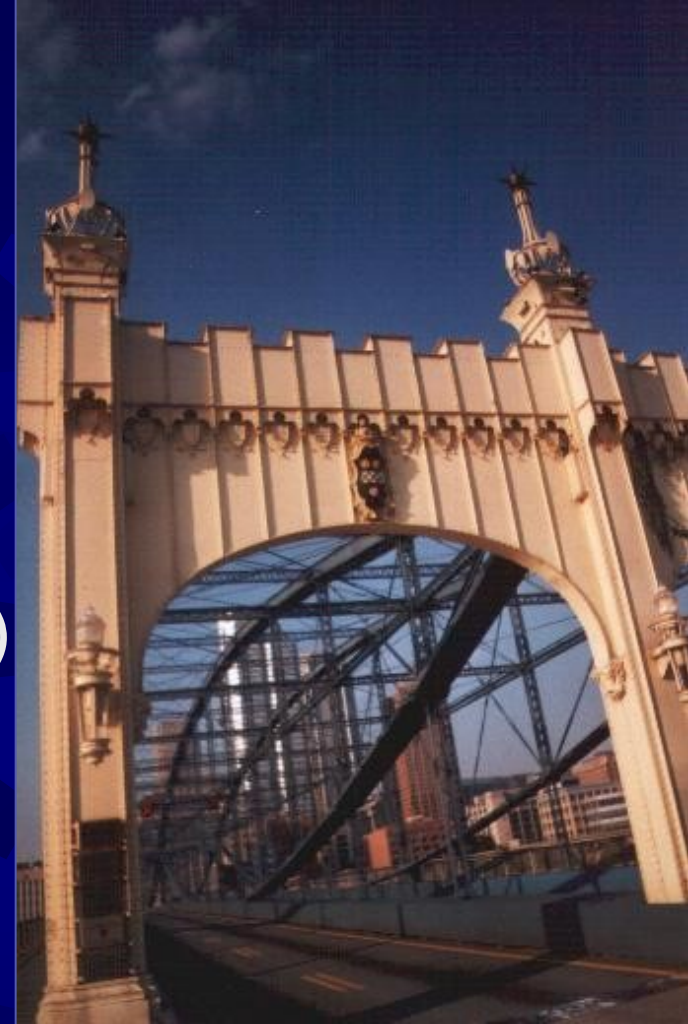
Gedaan? (2)

- ★ Gepraat & gepraat
- ★ Geobserveerd
- ★ Verhoudingen geoptimaliseerd
- ★ Lezen
- ★ RST Student Lectures; Teaching: 4x2 uur
- ★ Lezingen: Visiting Lecture Series, Grand Round Lecture Series
- ★ Afspraken JRRD (VA; Congres 2004)



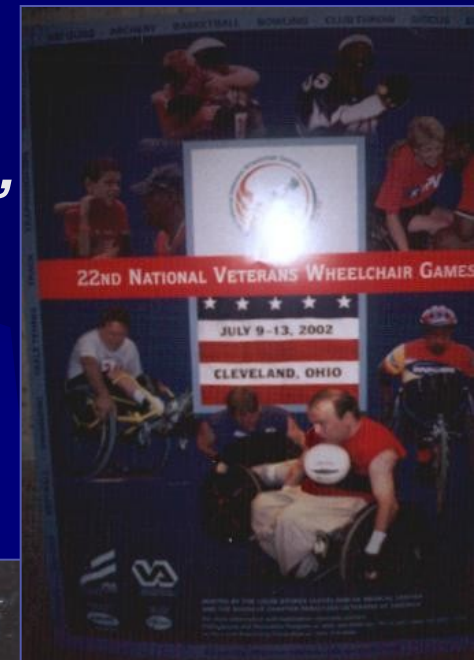
Gedaan? (3)

- ★ Brain picking vv
- ★ Consultancy.....
- ★ Experiment Cleveland
- ★ Start data-analyse (oa handbike)
- ★ Schrijven
 - ★ 2 sci artikelen
 - ★ 3 ned artikelen
- ★ Start boek: 'Biomech & Phys of manual wheelchair propulsion'
- ★ Werkplekbezoeken



Zelf experimenten Gedaan (4)??

- ***Kenmerken van krachtleverantie
Obstakels, vloeroppervlakken/-materialen,
wheelie***
- Ja, maar.....
- **IRB!!!!!!!!!!!!**
- **Medical – ethical training**
- **Liability**
- **Instrumentation**
- **Publikatie....?**



(Werkplek)bezoeken (1)

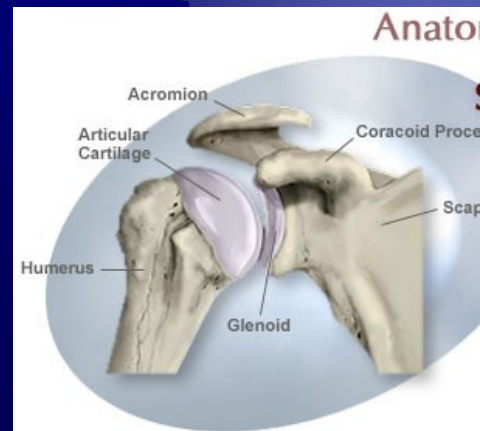
- ★ Pitt/UPMC:

- ★ Sports Medicine Center (Panthers, Steelers)

 - ★ Joe Myers, Scott Lephart

- ★ Musculo Skeletal Research Center (Woo, Fu)

 - ★ Rich Debski



Sportsmedicine Center

.Clinic & Research

.Multidisciplinary treatment
rehabilitation (250 pat/day)

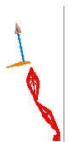
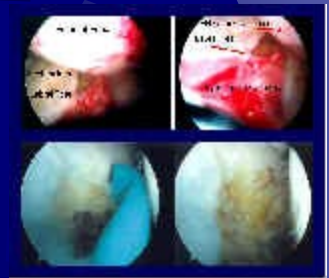
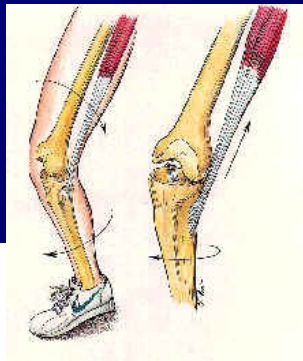
.Dep's Orthopaedics, Phys Ther,
Rehab, Exerc Phys etc



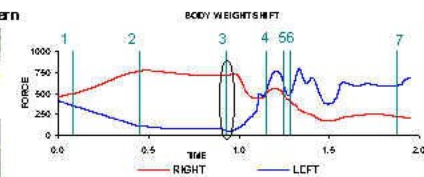
Neuromuscular Research Lab

- ☀ Golf Injury prevention program
- ☀ Female athlete ACL project
- ☀ Shoulder stability/injury

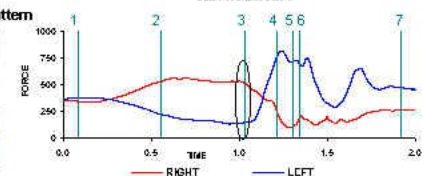
Proprioception, kinaesthetics, mechanics, dynamics, co-ordination



Poor loading pattern



Proper loading pattern



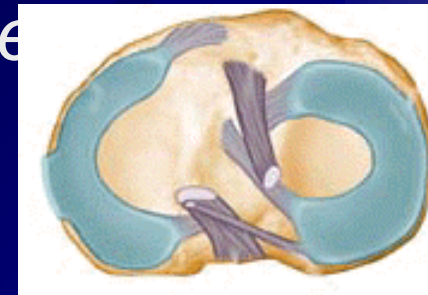
Musculo Skeletal Research Center (Woo, Fu)



- ★ MSRC Biomechanics lab
- ★ Growth & Development lab
- ★ Ferguson Lab
- ★ Neuromuscular Research lab
- ★ *Orthopaedic Surgery*

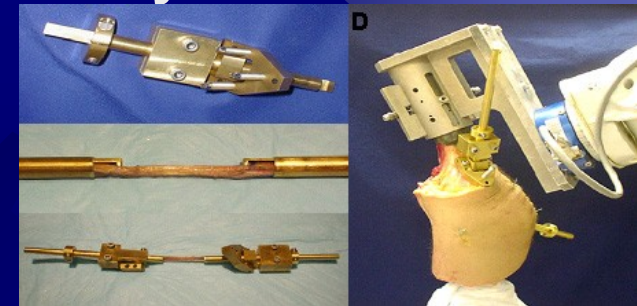
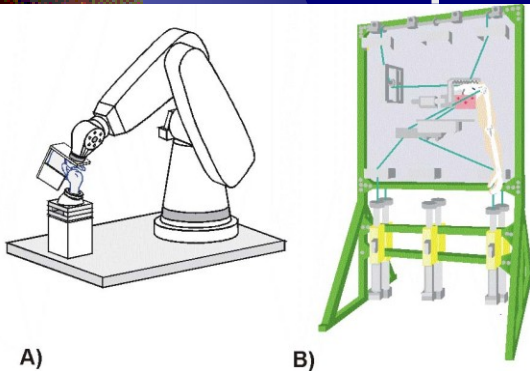
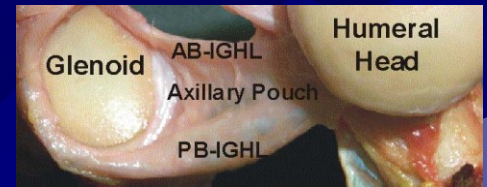
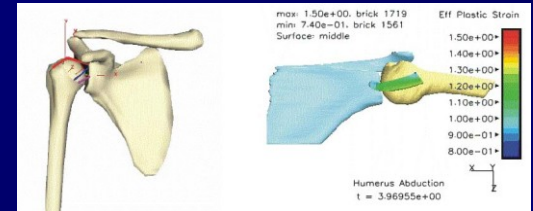


Tissue engineering/regeneration



MSRC Biomechanics Lab

- ☀ MCL/ACL/PCL
- ☀ Shoulder
- ☀ Tendinitis
- ☀ Carpal Tunnel/Upper extremity

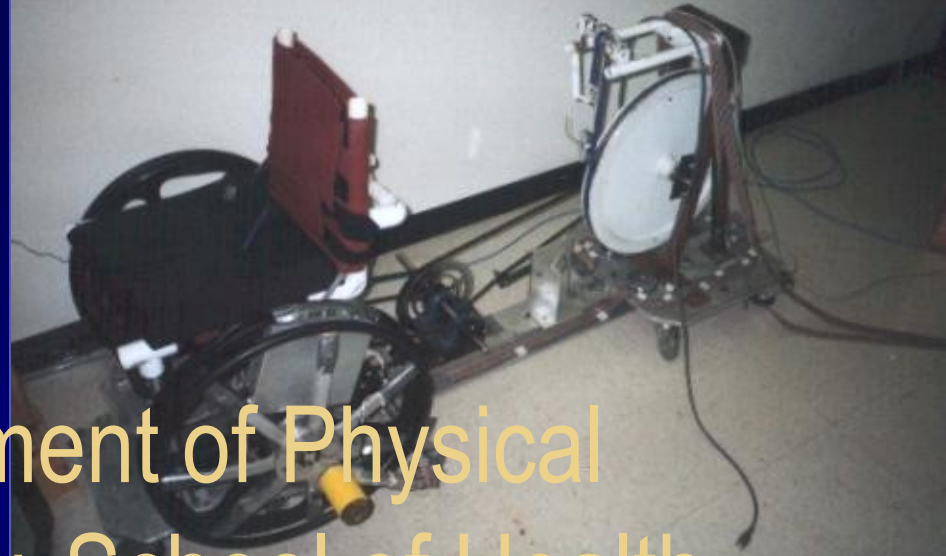




Beneficial Design, Nashville TN

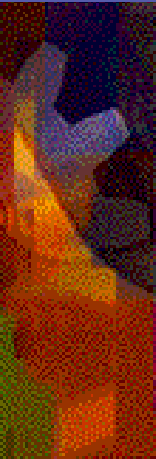
*Handrim design & ergonomics,
compliance, RSI*





Department of Physical
Therapy, School of Health
Science, University of Maryland

Fatigue, training



(Werkplek)bezoeken (2)

- ★ Nashville, TN: Beneficial Design
- ★ Baltimore, University of Maryland: Dep of Phys
- ★ Cleveland (Ohio): Center for Functional Electrical Stimulation, upper extremity function restoration, implants 8-48 kanalen, blaas, ademhaling,
- ★ Washington: JRRD
- ★ Charlottesville (VA): Res Center for Automotive Safety; (soft) tissue impact
- ★ Cleveland: Veterans Games, experiments
- ★ (Niagara Falls)

Geleerd?

- ★ HERL: Wie zijn zij? Wat houdt ze bezig?
- ★ Engineering vs biology framework
- ★ Waarde van:
 - ★ Onderzoek >< 'kliniek', toepassing
 - ★ Academische >< professionele opl
 - ★ Universiteit & privaat initiatief
 - ★ Universiteit & maatschappelijke dienstverlening
- ★ Universiteit-student-docent-'doc'
- ★ Onderwijs – student – geld - Tuition
- ★ Onderzoek – subsidie – geld – VA, NIH etc
- ★ Bevoegenheid, werken, grants ... carrière?
- ★ Werken.....en verder?

Geleerd ?

☀ Mens – maatschappij – stad

☀ Respect – vrijheid

☀ Zelf – zorg

☀ God-America-geld

☀Basketball



1. Pittsburgh in the rain - Leon de Graaff
2. 't is stil in Amsterdam - Ramses Shaffy
3. Wheelchair groupie - Alquin
4. Port of Amsterdam - David Bowie
5. Pittsburgh Pennsylvania - Guy Mitchell
6. Voor altijd in een rolstoel - Rommie
7. Amsterdam - Jacques Brel
8. Pittsburgh - Ahmad Jamal
9. New Amsterdam - Elvis Costello
10. Santa's in a wheelchair - Kids of Widney High
11. Tulpen uit Amsterdam - Herman Emmink
12. Pittsburgh steeler's fight song polka - Frankie Yankovic
13. Geef mij maar Amsterdam - Johnny Jordaan
14. Wheelchair - Madrugada
15. De stad Amsterdam - Acda & De Munnik
16. Pittsburgh girl - Scott Paulson & Jim Krenn
17. Wheelchair - The Argument
18. Aan de Amsterdamse grachten - Wim Sonneveld

