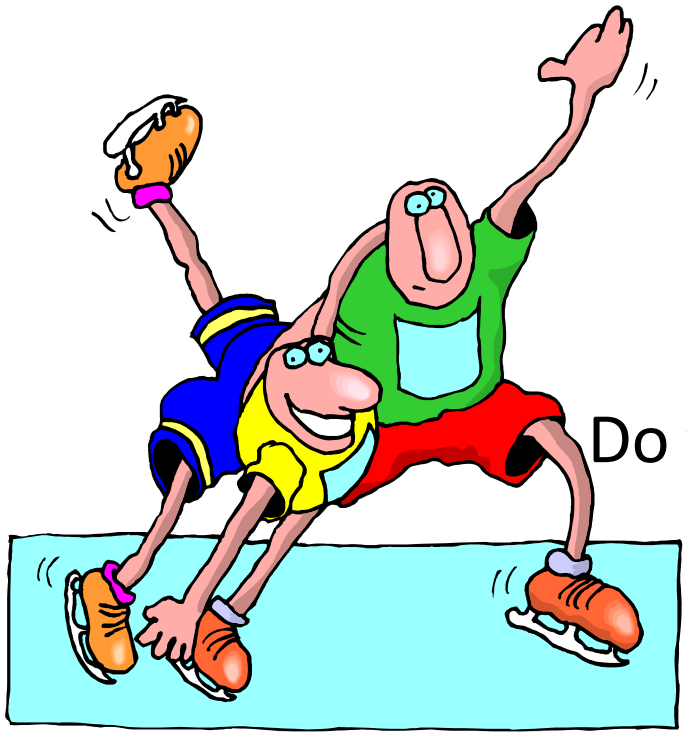
WELCOME

to 13 steps

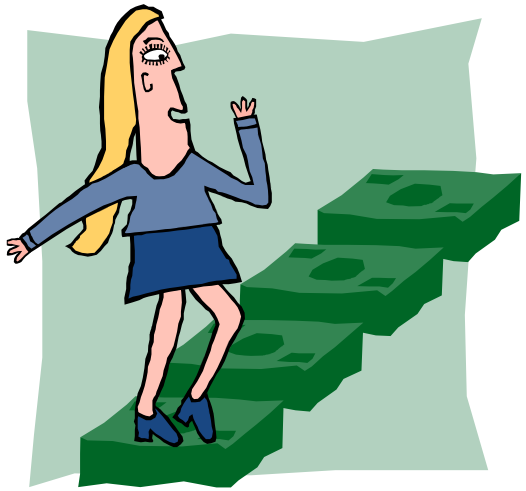
Preparations of Workshop:



Organize yourselves in pairs – you should work two and two together!

Do this before we get started - thanks

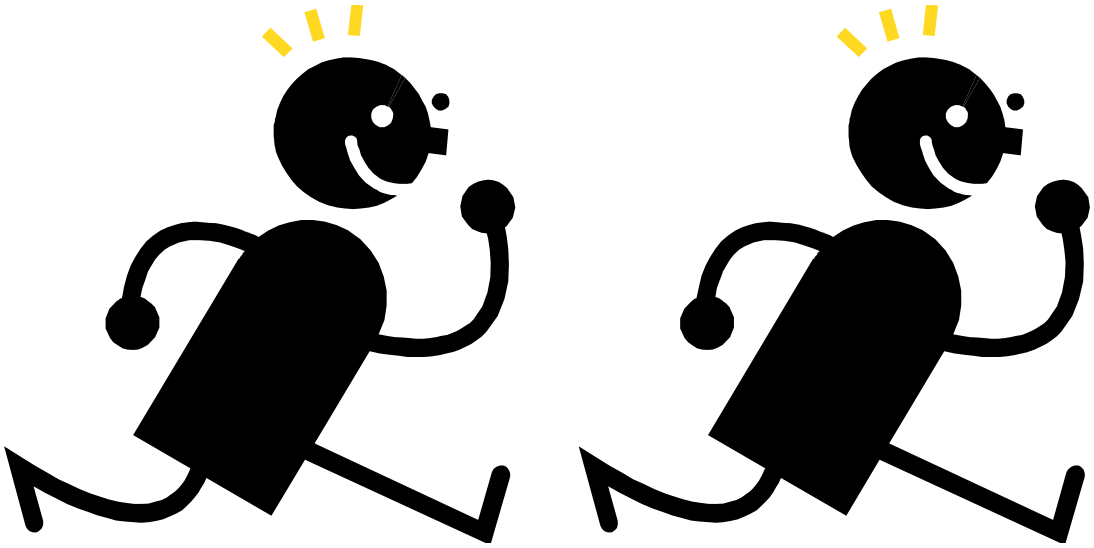
The 13 steps



A European way of analyzing the support areas when being seated

Preparation

- Could I have two volunteers?



Just read this!!!

- Please study how they sit and take a minute to discuss with your partner
- Is it an active position?
- Head position?
- Position of feet?

- Look at them from time to time and see if and how they move

Pia Hindersson

- From Sweden – Stockholm

- Talk “swinglish”
- By profession: Occupational Therapist
- Works for Invacare as Global Product Manager
- Product area: Passive wheelchairs/ Tilt is Space

Agenda

- Short introduction
- Posture´s - good and bad – what judges
- The reason for the 13 steps
- Palpation and handgrips
- The 13 step video
- Practicing the 13 steps
- Further posturing
- End of the workshop!

Introduction

- Europe – 14 countries
- 14 Reimbursement system
- North´s more seating and posturing vs. south

Reimbursement effect

- Different directives give different solutions
- Stipulation vary between
  - cost level
  - functional product demands
  - diagnose
  - tenders up to four years

  or a mix between some or all
- Effects the product offer

Difference Europe vs. North America

PRODUCT PERSPECTIVE

- In Europe as a producer you design the complete wheelchair including the seating and options
- Seat cushion often changed – preventive reason
- All have seat tilt (25°) and backrest recline (30°)
- Wheelbases are used for 5-8% for either alternative seat and backrest/ molded seats

Difference Europe vs. North America

PRESCRIBER (OT/ PhT´s) PERSPECTIVE

- OT/ PhT prescribe the wheelchair
- In Europe prescriber have an influence of brand
- Makes the assessment more or less in conjunction with the Dealer/ TAC
- Assessment part of the rehabilitation inc. follow-up
- Most countries have refurbishment schemes
- User do not pay

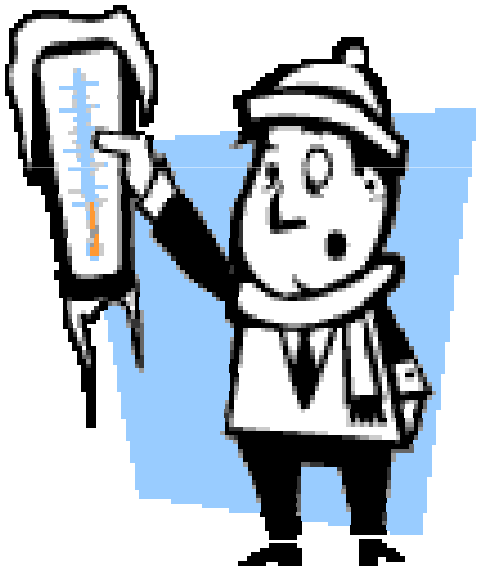
Difference Europe vs. North America

USER PERSPECTIVE

- Mainly elderly users – 80% geriatric care
- In Europe can the user in most countries have a decubitus seat cushion for preventive reasons
- Can get a new chair when there is a new functional demand - vary between countries
- Users in Nursing homes receive a tilt in space wheelchair

The volunteers

- Please freeze your posture



Posture´s

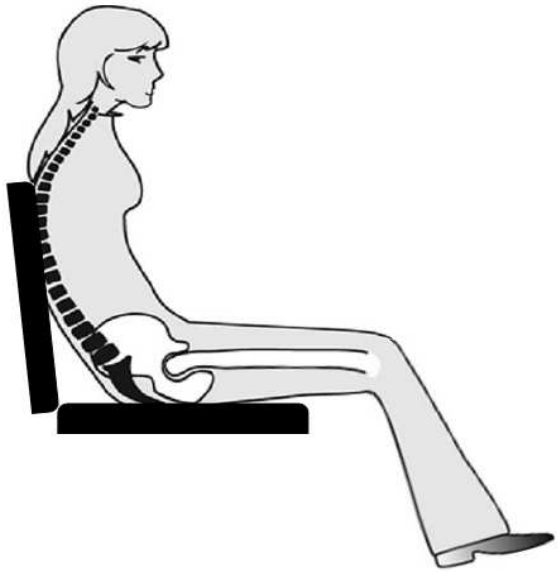
- How are the volunteers doing?
- What happened to their posture?
- Active or Passive?
- How do you define it?

How do we get to this posture?

- *Please work in groups of two and two together. Two observes from each side, one sit and one tilt*
- Stand behind and tilt your colleague
- Ask her to stay active!
- What happens with her head? Her pelvis?
- What effects will the backward tilted posture have on the body?

What is effected by this posture

- Head seeks balance due to Postural reflex
- Back becomes kyphotic and increased cervical lordosis
- Buttocks move forward on the seat giving a shorter seat
- Increases pressure on vertebral discs
- Incorrect body weight distributions giving risk of decubitus
- Impedes digestion, respiration and blood circulation



Why?
(– if we are interested)

Option one:

- When being tilted
  - Postural reflexes

Option two:

- Sitting in a chair (no tilt) giving poor support, the body will seek support, automatically

What is a good posture?

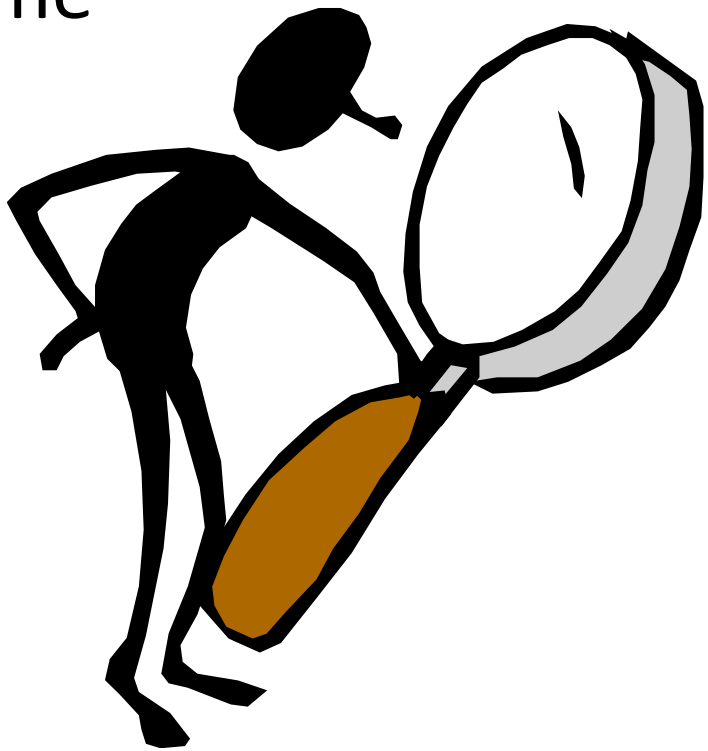
- We are made for standing and being active
- When we sit, we **should** strive for not damaging our bodies – do we?
- When we sit we have to allow stability for being mobile
  – if not having it,
  we make it happened
- The body seeks support!

Basic points to consider

- The head would like to have ears and eyes balanced and straight line to Trochanter
- The pelvis should be as neutral as possible and supported
- Hamstrings should be relaxed
- Large contact area

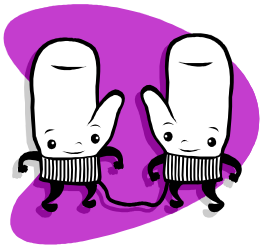
Reason for the 13 steps

- Many criteria's to consider
- Take one thing at the time
- Evaluate over time

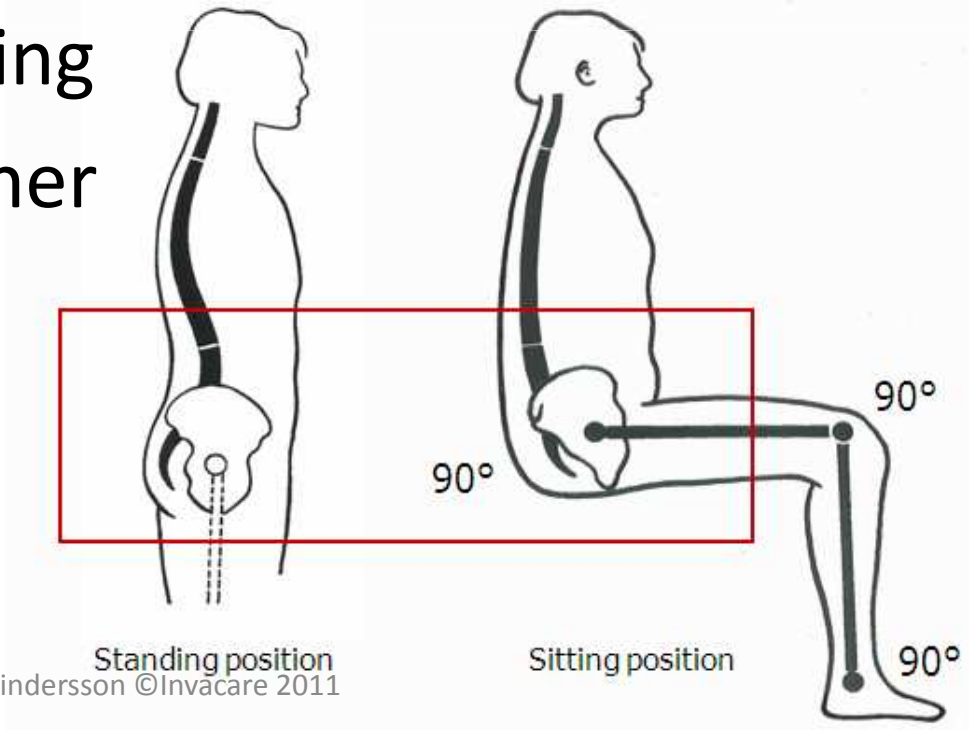


Palpation

<u>Pelvis</u>



- Use your hands as thumb gloves
- Find the pelvic edge on your selves – follow it from standing to sitting
- Repeat on your partner



Palpation

Pelvis – back and forth´s

- Sit as low so pelvic edge meet your eye level
- Find the pelvic edge, ask your partner too rotate the pelvis slowly back and forward. Note how your index fingers change in height

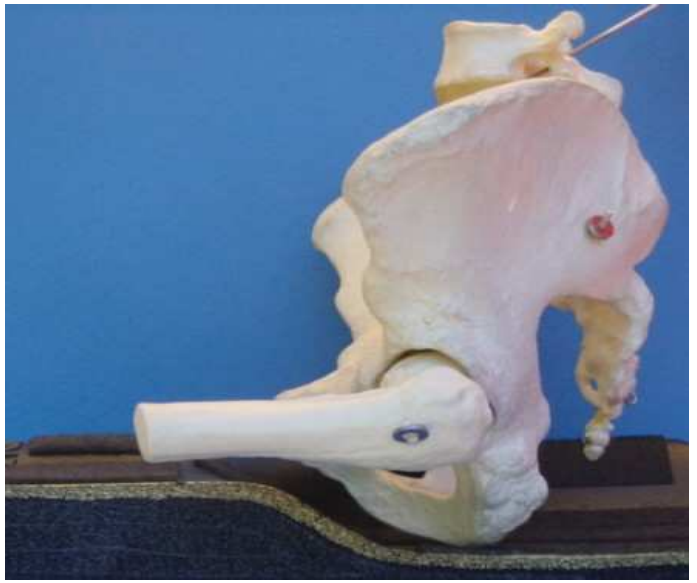
Palpation

Pelvis – oblique

- Place the seat mat under one buttock
- Let your partner find out if it is left or right with closed eyes!

Palpation

<u>Pelvis – rotation</u>



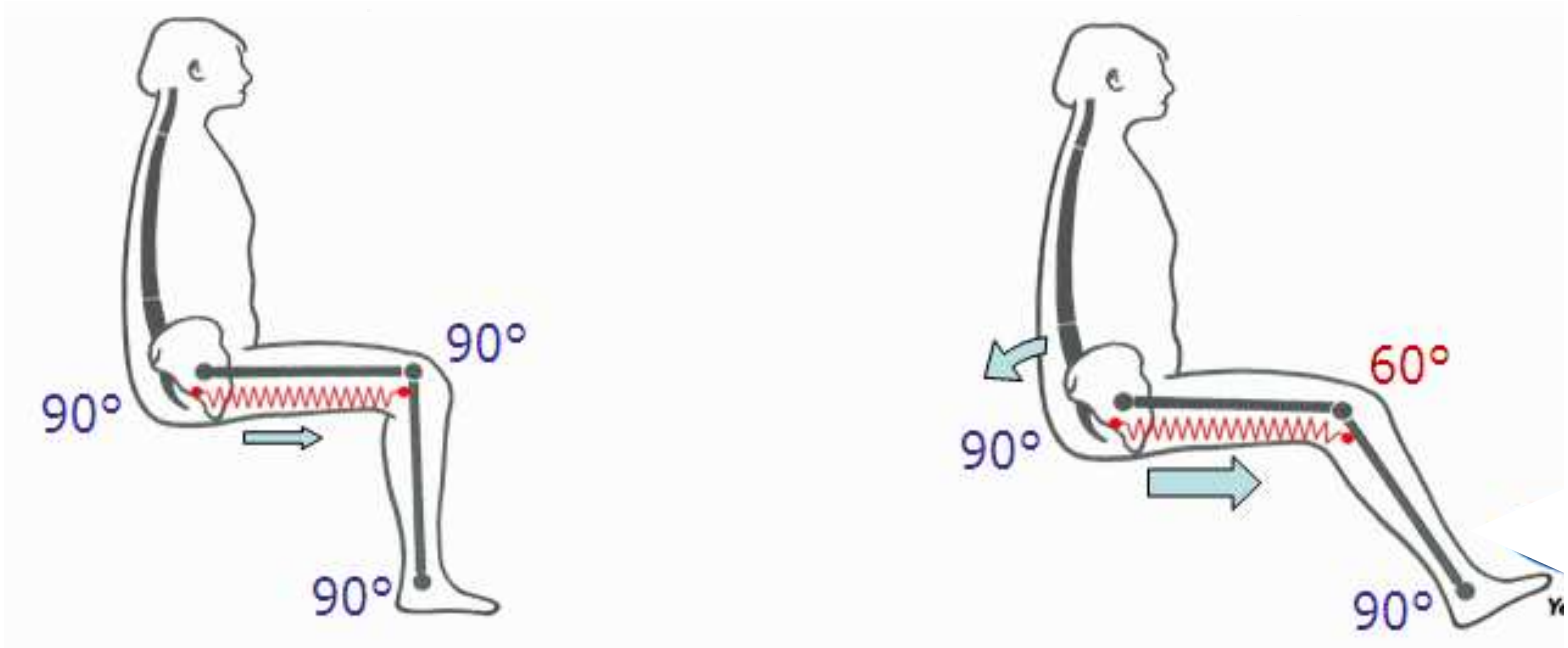
Tuber ischiadicum needs space!

- Sit on a table – relax!!
- Lean back and forth with your pelvis and watch the knees and your shoulders

Palpation

Hamstrings

- Becomes shorter over time!
- Find them on yourselves!



Palpation

<u>Hamstrings</u>

- Sit it front of your partner
- Find them on your partner
- Lift the leg slowly and feel the tension increase
- Discuss what happens with the pelvis when hamstrings are tense

Palpation

- Contact area – define the contact area on your partner - the area where the body meets the seat surface.
- Check for pressure difference between seat and backrest

The 13 steps giving

Confident Posture for the Elderly User

by Invacare® Passive wheelchairs

Introduction

This checklist has been devised as a tool to aid the basic assessment of a client in a passive or comfort wheelchair. There are multitude of accessories available for this process and we have chosen to focus on a small selection.

For more information about accessories, please refer to the Invacare Rea sales literature or go to www.invacare-rea.com or www.invacare.co.uk

Thanks for contributing to safer seating posture!

Goal

- To evaluate the posture of the client
- To have a logical sequence in adjusting a seating system for your client
- To check how the client is seated after you have made a change in the existing seating system
- To be able to measure differences before and after a fitting/ assessment

- The first column of the checklist explains the 13 steps. It contains the main questions and hints on how to check the critical areas.

  The next column tells you what to adjust (refer to the user manual for product specific information) and what to aim for.

  The final column identifies possible problem areas and considerations: if something does not work during one of the steps, the problem area will give solution suggestions.

  The checklist takes assumes that you are aware of the way the pelvis and spine interface with each other and with the rest of the body.

Points to remember

- The client must sit in a wheelchair.
- Examination - explain what you want to check and that you will need to touch them - with their permission.
- The wheelchair sizes should correspond to the size of the client.
- As the different body parts are interconnected a change in one position may have consequences on previous adjustments.
- Make one adjustment at a time. Analyze the results before each adjustment.

13 step sequence

1. Mapping the user and Preparations
2. Position of buttocks in the chair
3. Pelvis symmetry
4. Position of the feet
5. Position of thighs
6. Seat angle and cushion
7. Back angle
8. Back height
9. Back shape
10. Arm rest
11. Lateral / trunk support
12. Head support
13. Tilt in space

The 13 steps giving

Confident Posture

WORK SHOP with Video and Papers

Checklist	What to adjust and the aim	Possible problem areas/ Considerations
I. I Mapping the user A. Activities in daily living B. Physiological condition C. Psychological factors D. Social situation E. Economical factors		Remember that the client relatives, therapist, etc. may have different opinions about goals
I. 2 Preparations 1. Tilt and recline the chair slightly 2. Remove the legrests 3. Put a cushion or support under the feet	***Relaxed feet position***	The Hamstrings should be relaxed. This is achieved naturally if the user can move their feet to a preferred position

Checklist	What to adjust and the aim	Possible problem areas/ Considerations
2. Position of buttocks in the chair Is the client sitting as far into the seat as possible? Should the backrest be slightly reclined? Lean the client forward and check the position from above by palpating the buttocks. To be done before and after the adjustment	Seat depth **The client should sit as far back as possible**	Check pressure distribution of the buttocks with your hand comparing backrest with seating  The upper inside of the calf should not touch the seat cushion. Strive for a 2-3 cm space
3. Pelvic symmetry Palpate SIAS/ ASIS Check whether the two upper pelvic edges are level. After adjustment, check pressure with two fingers, between side guard and Trochanter	Seat width **Should be as narrow as possible without allowing direct pressure**	Kneel in front of the client so you are at eye level with your hands when palpating SIAS/ ASIS The armrest sides should “just” touch the buttock sides at Trochanter area

Checklist	What to adjust and the aim	Possible problem areas/ Considerations
4. Position of the feet 1. Check hamstring tightness 2. Choose and add legrests that correspond to the preferred position that the client has selected. 3. Check if the feet are bearing weight 4. Check height of foot plate 5. Check pelvis position by SIAS	Footrest height, angle and depth Legrests angle Calf pad support – adjust height and depth **The feet should be positioned so the pelvis is in a natural position**	**Hamstrings should never be tight – it will pull the pelvis into a backward rotation! Check hamstring tendons for relaxed position** Pressure applied under the soles of the feet stimulate upright posture and help to keep them on the footplates Use two fingers for pressure checks at cushion level – both top and front
5. Position of thighs Check if the thighs are parallel and straight and facing forward Check that the hamstrings are relaxed	Adjust the width of the legrests to avoid pressure on knees **The legs should be as straight as possible**	The upper legs should not be abducted, adducted or wind-swept

Checklist	What to adjust and the aim	Possible problem areas/ Considerations
6. Seat angle and cushion 1. Assess how the body pressure should be divided between seat and backrest 2. Create a stable sitting position 3. Insert your hand between client and seat, little finger first, and feel the pressure both before and after the adjustment. 4. Check patient for comfort 5. Check risks of decubitus (pressure ulcer) – use the Norton scale or similar and proceed accordingly	Adjust the seat angle (tilt) with the lever at the rear of the backrest **There should have a large contact area between seat and backrest**	Make sure that you have a seat cushion that allows enough space for the ischial tuberocities The seat should be tilted just enough to maintain balance and feel secure. Check that eyes and ears are level: this ensures that the client remains alert

Checklist	What to adjust and the aim	Possible problem areas/ Considerations
7. Back angle 1. Check position of head and how it is balanced in the spine 2. Lean the client forward and check the position from above by palpating the both buttocks Check for comfort	Adjust the backrest angle with the lever at the rear to a relaxed position **Ears and eyes should be parallel with the floor and the complete backrest should support the backrest of the client**	To avoid sliding out of the chair, have the backrest as upright as possible  
8. Back height Check for comfort and mobility Check with your hand for pressure distribution	Adjust the backrest height **The support should be at least up to the client's arm pits**	Make sure that the shoulder blades are not pushed forward

Checklist	What to adjust and the aim	Possible problem areas/ Considerations
9. Back shape Check support of preferred posture. Use your hand for pressure evaluation	If not sufficient adjust with wedges or/ and the tension-adjustable backrest **Strive for mobility movement without locking the posture**	Strive for a natural pelvic position. Ensure that firm support is given just at the upper pelvis (sacrum-iliac joint) to avoid backward rotation of pelvis
10. Arm rest Evaluate the support both for upper and lower trunk by giving stabilisation with your hands	Adjust height and depth **Shoulder area should be relaxed**	Does it give support during transfer/ body shifting?
11. Lateral / trunk support Create upper body stability	Adjust the depth and height **The body posture should be stable thanks to rear rather than side support**	Could another backrest cushion/ backrest base give better support?

Checklist	What to adjust and the aim	Possible problem areas/ Considerations
12. Head support Check the reason: 1. Support during transportation 2. Tilt in space	Adjust height and angle and loosen all screws then adjust from the bottom to the top **Neck and headrests should be used when seat angle is > 105º**	Support area for car-transportation  Support area for normal use 
13. Tilt in space Check interval of relevant use Make a final check with your hand around the user for distribution of pressure - this will indicate if optimum support is being given	Adjust the backrest angle with the lever at the rear **Tilt should be used in short period for weight and pressure distribution purposes**	As tilt increases, the pressure distribution transfers from the seat to the backrest area Please note that a greater tilt angle increases drowsiness and decreases activity levels

Additional support

Where would you like to have more support?

Define those and built up the seat by adding bits and pieces

Additional support

Ask your partner to stand up – do they have the same shape of the spine, position of the head and pelvis when sitting?

If so - you are done!

That was all from me

– thank you for your attention

www.invacare-rea.com