

Wheelchair Cushions In-Service

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Evaluating Products.....



Roho
 therohogroup.com



Sunrise "Jay"
 sunrisemedical.com



Invacare Infinity
 invacare.com



Freedom Designs
 freedomdesigns.com



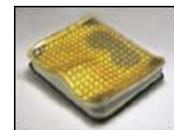
AEL Seating
 aelseating.com



Hudson
 hudsonindustries.com



Otto Bock
 ottobockus.com



Action
 actionproducts.com

CANTON

(330) 478-4100 or (800) 686-5641

AKRON

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CLEVELAND

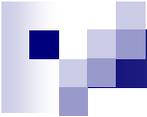
(216) 642-1447 (800) 589-6688

YOUNGSTOWN

(330) 743-7400 (866) 743-6400

Physical Assessment: Posture-Movement-Function

Client Evaluation	Related Health Issues	Mobility & Function Approach	Important Seating Goals
<ul style="list-style-type: none"> ❖ Sensory awareness and processing ❖ Perceptual and cognitive components ❖ Soft tissue integrity and postural alignment ❖ Joint motion, muscle strength, and postural tone ❖ Postural limitations and compensations ❖ Development reflexes in the seating posture. ❖ The Pelvis: Rolled backward, or sliding forward, rolled forward, tilted or turned ❖ The Hips and Legs: Turned, spread open, turned to the same side, bent up, moving constantly. 	<ul style="list-style-type: none"> ❖ Diagnosis/disability ❖ Breathing problems ❖ Heart and circulatory ❖ Seizures ❖ Bladder/bowel control ❖ Nutrition/digestion ❖ Medications ❖ Surgeries ❖ Orthopedic consideration ❖ Orthotic intervention ❖ Skin condition ❖ Sensation ❖ Pain ❖ Seeing/hearing ❖ Cognitive/perceptual/behavioral status 	<ul style="list-style-type: none"> ❖ Therapeutic Approach <ul style="list-style-type: none"> ❖ Support surfaces shaped in a way that cues the sitter to align the body spontaneously. ❖ Accommodative Approach <ul style="list-style-type: none"> ❖ Accept unchangeable conditions and make no attempt to modify the client's condition. ❖ Protective Approach <ul style="list-style-type: none"> ❖ Preserve a client's health when at an increased risk for trauma, disease, or pathology. ❖ Functional Approach <ul style="list-style-type: none"> ❖ Preserves function that limits the ability to perform the activities needed for daily existence. 	<ul style="list-style-type: none"> ❖ Be comfortable <ul style="list-style-type: none"> ❖ The person must be comfortable, particularly if sitting for a long time. ❖ Relieve Pressure <ul style="list-style-type: none"> ❖ A cushion should help to relieve pressure to help prevent tissue breakdown ❖ Support <ul style="list-style-type: none"> ❖ Provide enough support to feel secure and safe. ❖ Provide a stable support surface for the pelvis and thighs. ❖ Improve Function <ul style="list-style-type: none"> ❖ Should improve the person's ability to function and participate in activities ❖ To transfer into and out of cushion. ❖ Improve Bodily Functions <ul style="list-style-type: none"> ❖ If a person is sitting fairly upright improves blood flow and digestion.



Cushion Considerations

Properties of Cushion Materials

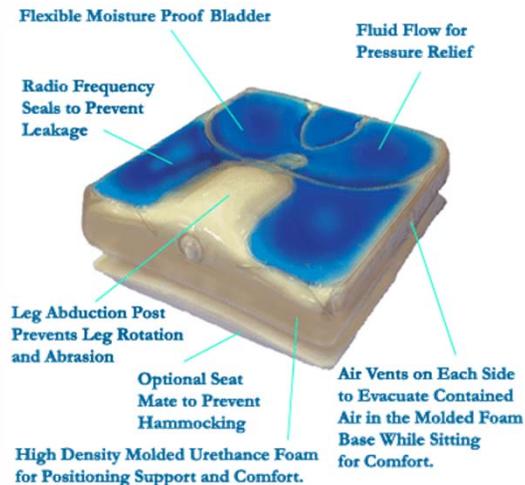
- ❖ Density
 - ❖ A greater density generally means a more durable material, but not always.
 - ❖ Low density materials will fatigue faster than high density.
- ❖ Stiffness
 - ❖ A distance a person sinks into the cushion.
 - ❖ Soft materials may bottom out, but failure to compress can lead to increase seating pressure
- ❖ Resilience
 - ❖ The ability of a material to recover its shape after a load is removed.
- ❖ Dampening
 - ❖ The ability of a cushion to soften on impact.
- ❖ Envelopment
 - ❖ The degree the person sinks into the cushion and the degree the cushion surrounds the buttocks.
 - ❖ Good envelopment promotes stability and helps reduce peak pressure.

Checklist of a Successful Fit

- ❖ Health and Physical Fit
 - ❖ The physical interface with the equipment and consequences of using it.
 - ❖ Skeletal Alignment
 - ❖ Soft tissue integrity
- ❖ Functional Fit
 - ❖ The ability to function while seated in the equipment.
 - ❖ Seated transfer
 - ❖ Reach, lift and carry
- ❖ Socio-economic Fit
 - ❖ The ability to use the chair to accomplish daily tasks.
 - ❖ Acceptance
 - ❖ Affordability
- ❖ Environmental Fit
 - ❖ The equipment's safety, durability, and transportability.

Wheelchair Cushions

- ❖ Foam
- ❖ Gel/Fluid
- ❖ Air Flotation
- ❖ Hybrid



Foam Wheelchair Cushions

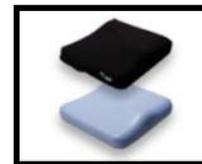
Foam comes in a variety of configurations, densities and layers to create the best pressure redistribution for the cushion. Not all foams are the same, so look closely at what type of foam you are choosing.

✓ Positive Attributes

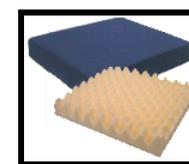
- ❑ Comfortable
- ❑ Easily customizable
- ❑ Even under extreme environmental conditions remains stable
- ❑ Great pressure-reducing characteristics in the ischial and coccyx area
- ❑ Decreased risk of bottoming out
- ❑ Lightweight and inexpensive
- ❑ Easy to clean and maintain, good for in facility use.
- ❑ Many are dual molded foam come with waterproof coating
- ❑ Three basic types, planar, standard contour, custom contour.

✓ Negative Attributes

- ❑ Can be less durable than other mediums
- ❑ Requires protection from moisture/incontinence
- ❑ Foam quality is important
- ❑ Modest degree of positioning
- ❑ Has a tendency to loose its resilience over time.
- ❑ Life expectancy of a foam cushion is between 6-12 months.



Sunrise
Soft Combi



Hudson
Convuluted Core



AEL
Flo-Tech Contour



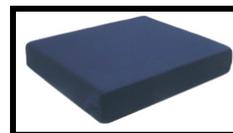
Invacare
Essential



Invacare
Personal SeatVF



Invacare
Comfort-mate



Hudson
Elasti-Foam



Hudson
Comfort Guard 2



Hudson
Comfort Plus 3

Gel Wheelchair Cushions

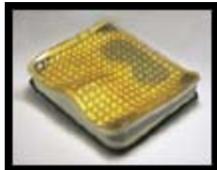
Most gel cushions consist of an elastomer gel contained in a membrane. The gel functions much like air to equalize pressure over the seating surface.

✓ Positive Attributes

- Can be cost effective
- Easy to clean and maintain
- Reduces skin temperature and moisture (a pre-requisite for tissue breakdown)
- Excellent shear and pressure reduction
- Good option for tilt-n-space chairs-
- Provides a more stable base than air cushions

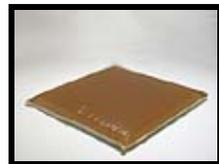
✓ Negative Attributes

- Heavy
- Can be effected by changes in external temperatures
- Unable to customize
- Increased risk of bottoming out
- Can not be repaired
- High viscosity means envelopment is poor.



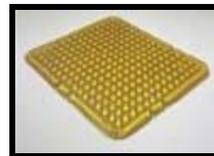
Action

Xact Classic Contour



Action

Xact Classic Contour



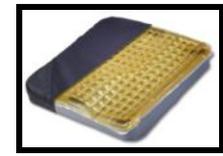
Action

Adaptive Cube Pad



Hudson

Deluxe Hydro Float



Action

Xact Low Profile

Fluid Wheelchair Cushions

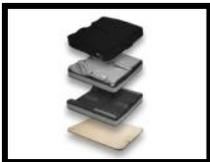
Fluid is a different material than gel and may better distribute pressure around bony areas. Fluid cushions can accommodate postural deformity, but may cause postural deformity if patient gets “stuck” in poor posture due to fluid shifting.

✓ Positive Attributes

- Lighter weight than gel has a greater shock absorbing properties.
- Can accommodate mild/mod Deformity with variety secondary supports
- Envelopment can be good with pressure redistribution.
- Firm foam base contoured to provide optimal pelvic positioning
- Easy to clean
- Absorb significant amounts of heat from seating surface.

✓ Negative Attributes

- Ineffective at extreme temperatures
- Difficult to repair
- Requires maintenance
- Increased weight
- Can cause difficulty with transfers
- Can be unstable



Sunrise
Jay 2 Cushion



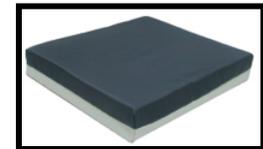
Sunrise
Jay Deep Contour



Otto Bock
Procontour Comfort



Otto Bock
Cloud Cushion



Hudson
Economy Gel foam

Air Flotation Wheelchair Cushions

Air cushions are constructed of individual cells that move independently, allowing each cell to twist, turn, and adapt to the contours and anatomy of the patient.

✓ Positive Attributes

- Lightweight
 - approximate weight 3.5 lbs
- Superior pressure relief:
 - as the body is immersed greater contact area is achieved
- Low Friction and Shear
 - the slick surface combined with the independent movement of each cell reduces friction/shear as client moves
- Easy to clean
- Repairable

✓ Negative Attributes

- High maintenance, MFG recommends a daily inflation check
- Sensitive to drastic changes in air pressure
- Can be unstable
- Difficult for transfers
- Easily over/under inflated
- Persons who lack sensation may not be able to feel cushion is under inflated.
- Can be punctured or torn.



Roho
High Profile



Roho
Low Profile



Roho
Contour Select



Roho
Quadtro Select



Roho
Mosaic



Roho
Enhancer



Varilite
Evolution

Hybrid Wheelchair Cushions

Provides a contour base to increase stability for transfers and provide positioning of the pelvis and lower extremities for enhanced seating posture while providing Air, Fluid or Gel for pressure management.

✓ Positive Attributes

- Stability
 - The contour base increases stability for transfers in and out of cushion.
 - Solid base features deep leg contours and a seating zone to provide anti-thrust
- Skin Protection
 - Provides protection to the ischia, sacrum and coccyx area with the foam base.
 - Fluid or Air option optimal immersion for high risk of breakdown.
- Enhanced Sitting Posture
 - Improves positioning of the pelvis and lower extremities
 - Option wedges to accommodate hip limitations

✓ Negative Attributes

- High maintenance.
- Expensive



Roho
Nexus Spirit



Roho
AirLITE



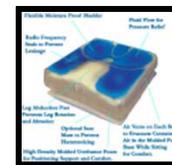
Sunrise
Jay R Cushion



Invacare
Infinity AirFlo



Roho
Harmony



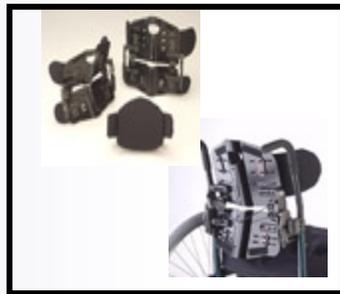
Hudson
Supreme



Hudson
Rehab

Wheelchair Back Supports

- ❖ Adjustable Tension Upholstery
- ❖ Contoured Backrest
- ❖ Bi-Angular Backrest
- ❖ Foam-in-Place Backrest





Goals of a Back Support System

- ❖ Provides postural support to pelvis and upper body
- ❖ Increased surface contact for comfort and positioning
- ❖ Backrest height is important to maximized function
- ❖ Easy to adjust to accommodate user growth

Evaluating Products

- ❖ Try **multiple** surfaces to determine best fit
- ❖ Fit the consumer **NOT** the wheelchair

