HYDROCARE®

Supporting Health Care Professionals with their seating prescription and meeting equipment criteria.

Clinical Justification & Case Studies

CareFlex

The HydroCare

Clinical Justification

Supporting Health Care Professionals with their seating prescription and meeting equipment criteria.

The HydroCare is a simple but effective specialist seating system that offers comfort and support for those in need of stability and safety.

Introduction

The HydroCare is the ideal chair for the older person, nursing or residential home environments, domestic use, or for individuals in a palliative care setting. It incorporates various features that promote a sense of comfort, security and relaxation. The seat height and seat width can be tailored to a wide range of individuals to ensure a comfortable fit and the appropriate management of their posture and pressure care needs whilst optimising function. The HydroCare provides high levels of comfort and the robust construction quality associated with CareFlex.

Clinical Need

When an individual's ability to achieve good sitting posture is affected, either through illness, injury or disability, it can have a significant impact on their health and wellbeing. Specialist seating aims to allow individuals, who might otherwise have difficulty, to achieve their optimum sitting posture to sit out comfortably, interact with their environment, participate in activities of daily living and enhance physiological function.

Top tip: Check out the CareFlex website for detailed information on specific postural challenges and how specialist seating can help.

The HydroCare has been designed and engineered for individuals who present with mild postural needs and are at risk of pressure injury.

Mild postural needs include circumstances where:

- Sitting is the primary posture throughout the day.
- Assistance may be needed for the user to rise to standing and/or to change position.
- The primary goals include comfort, independence and energy management.

The HydroCare meets the following chair requirements:

- Simple but supportive, ensuring appropriate use and correct seat dimensions for the individual user.
- Offers security and stability to optimise function for activities of daily living and interaction with the environment.
- Integrated pressure management to reduce the risk of pressure ulcers as a result of immobility.



Top tip: For individualised prescriptions for users with moderate postural needs and an increased risk of pressure injury, consider the HydroTilt.

Seating Objectives

The HydroCare effectively balances four key objectives for specialist seating provision:

1. Comfort
2. Function
3. Postural management
4. Pressure care

The HydroCare achieves this by enabling the user to meet the basics of good sitting posture:[1]

- The body is conformed to the supporting surface symmetrically.
- Body weight is distributed equally over the maximum surface area.
- A balanced and stabilised body that can adjust to change.
- Body segments are supported and aligned as much as is possible.
- Upper limbs are free from their load bearing role for function.

Comfort

Comfort is key for quality of life, and for this reason it is the top priority at CareFlex. Comfort may seem an easily achievable goal but everyone has their own ideas on what being comfortable actually means. To some it could mean feeling safe, to others it could mean feeling energised, to those using other specialist equipment it could mean the opportunity for some freedom, and to those who experience pain it could mean finally being able to relax.

The challenges experienced by individuals with postural needs can make it difficult for them to sit comfortably. Individuals with complex disabilities can present with abnormal muscle tone and involuntary movements, which are associated with painful spasms and instability.

Comfort is equally important for individuals who experience a more sedentary lifestyle, as spending prolonged periods in a seated position can result in stiffness and chronic pain.

Specialist seating that promotes comfort and feelings of safety can not only enhance an individual's daily life but also increase tolerance of a desired seated position and compliance with equipment. If an individual isn't comfortable then they may not use the chair regardless of the clinical benefits.[2] Consistency of use is crucial for achieving outcomes and thus reducing the risk of secondary complications.

Top tip: Comfort is subjective. In order to achieve comfort, the client must be involved throughout the assessment and prescription process. The client is at the centre and we need to ensure that their views are respected, along with all those involved in their care.

Function

Specialist seating is not only important for protecting the body segments and reducing the risk of secondary complications but also encouraging normal functional movement and the promotion of independence. Independence is crucial for an individual's wellbeing and is an important factor in living a fulfilling life.

Freedom of movement is achieved through effective stabilisation of the pelvis and trunk[3] as the upper limbs are removed from their load bearing role. A stable posture has been shown to help an individual engage more fully in social activities at home, school or work, and as part of the community.[4]

Energy management is a critical part of promoting both comfort and function. Fatigue can affect all aspects of an individual's life and can significantly restrict their ability to engage in daily living, as well as having a negative impact psychologically and socially.[5] An unsupported posture can cause fatigue by making inefficient use of the body structure. Gravitational forces can also make sitting effortful for those who present with muscle weakness and abnormal muscle tone. Fatigue, if unmanaged, can be associated with significant postural challenges, including kyphoscoliosis, posterior pelvic tilt and contractures.

Early implementation of fatigue management strategies into daily life is critical, and could reduce the impact and the probability of fatigue becoming chronic.[6] The appropriate use of specialist seating can encourage energy conservation, making it easier for individuals to live a meaningful life. Specialist seating systems allow users to be more involved in activities of daily living, including interaction and engagement, due to the opportunity to rest and recuperate resulting in more energy throughout the day.

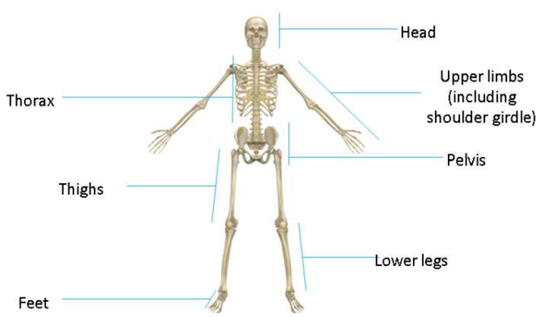
The HydroCare

Clinical Justification

Postural Management

Postural management is the use of any technique to minimise postural abnormality[7] and is evidently linked to an individual's ability to achieve their seating objectives. Lack of postural care and prolonged abnormal sitting postures can cause tension on the body and increase the risk of significant secondary complications, such as exacerbated pain and postural deterioration.[8] Proper positioning has demonstrated that it can decrease fatigue whilst helping to alleviate chronic discomfort and maximise function.[9] As the body structure is supported, and the segments work together efficiently, the user will experience improved comfort, stability, functional movement, and energy conservation.

Top tip: Effective postural management targets all body segments;[1] pelvis, thorax, upper limbs, head, thighs, lower legs, and feet.



A major goal in postural management is to promote good health and enhance autonomic nervous system function.[10] A person's inability to sit upright can result in increased dependence and decline in overall health over time, primarily reflecting altered physiological function.[11] Trunk asymmetry and poor head position can impair respiration, cardiac efficiency, swallow function, and digestion. Consequently, increasing the risk of aspiration, infection, and any related hospital admission.

An appropriate seating system can provide the optimum position for respiratory and circulatory function.[8] An upright sitting position can also facilitate a normal swallowing pattern[12] and improve components of eating and drinking behaviour by maintaining good head alignment.[13]

Top tip: The pelvis is the foundation for a good sitting posture as it dictates what happens to the body segments above and below. Positioned at the person's core, it acts as a support system for the entire body. The pelvis should be stabilised in all planes of movement. The aim is to correct the pelvis if it can be corrected; however, any fixed pelvic challenges must be accommodated.

Reducing costs is also a long-term benefit of appropriate postural management.[14] It can reduce costs associated with hospital admission, pressure injuries and infection. It reduces the need for invasive and expensive interventions too.

Pressure Care

Posture and pressure are inextricably linked; body posture and positioning have a direct influence on the pressure going through specific body sites.[15] Even in the gold standard sitting position, body weight is distributed as follows:[16]

Through buttocks and thighs: 75%
Through the feet: 19%
Through the arms of the chair: 2%
Through the back: 4%

The body can only withstand high interface pressures for a short period of time, and when loading of tissues is unequal, and/or pressure isn't regularly relieved, pressure ulcers can occur.[17] There are also a number of contributing or confounding factors, including pressure, shear forces, friction and moisture, associated with pressure ulcers. Everyone is potentially at risk of developing a pressure injury.[18] The impact of a pressure injury is profound, with individuals being affected physically, psychologically, socially, emotionally, spiritually, and financially.[19]

Top tip: Professional guidance from a Tissue Viability Nurse or District Nurse may be indicated.

A key intervention of pressure care is pressure redistribution; regular repositioning is critical for those deemed at risk of developing a pressure injury as it is believed to be one of the most effective methods for preventing skin damage.[15] The opportunity to sit out can offer a much-needed change of position to encourage blood flow and redistribute pressure. Specialist seating systems aim to reduce the risk of pressure injuries by distributing the user's body weight evenly throughout the chair over the maximum surface area with posture supported as aligned and symmetrical as possible.

Top tip: An angle adjustable seat base can aid pelvic stability and security within the chair as part of the client's 24-hour posture and pressure management plan.

Appropriate management or, better still, prevention of pressure injuries can not only improve an individual's outcomes and quality of life, but it can also reduce the costs to health and social care services benefitting the wider community.

Specialist Seating Provision

Once an assessment is completed, Health Care Professionals will need to justify their specialist seating prescription. Clinical justification is important as it aids in decision-making, prioritising and securing funding for equipment. It is the opportunity for Health Care Professionals to advocate for the best client outcomes.

To clearly demonstrate an individual's need for specialist seating, and to comprehensively convey the clinical justification, a funding request should:

- Be holistic and, where possible, have a multi-disciplinary approach.
- Identify the seating needs, considering the aims and objectives of the client, their support network and the environment.
- Present the clinical findings and prove how the chair can meet the seating needs, but also state the risks of not prescribing the chair.
- Back up any claims with evidence, including research, guidelines and legislation.
- Outline past and current interventions to demonstrate that less costly interventions have been considered.
- Demonstrate clearly the cost effectiveness of prescribing the chair and the cost implications of not prescribing the chair.

HydroCare Seating Solutions

The HydroCare offers comprehensive seating solutions, due to a range of functions and accessories, which will enable individual users to achieve their seating objectives whilst also being an ideal provision for multiple-user environments:

Reliability

- Since 1995 CareFlex has been collaborating with Health Care Professionals to develop innovative and effective specialist seating; CareFlex understand the importance of balancing comfort, function, postural support and pressure care.
- CareFlex have confidence and pride in their specialist seating and the positive impact they know it can have on people's lives. They have therefore submitted their products for independent testing and evaluation over the years, including pressure mapping and published clinical research. For further information, a copy of the summaries can be obtained from the CareFlex website: https://www.careflex.co.uk/info-centre/clinical-evaluations/

The HydroCare

Clinical Justification

Robustness & Durability

- The HydroCare provides high levels of comfort and the robust construction quality associated with CareFlex.
- The chair is durable with a 160kg safe working load and maximum user weight.
- Four fully braked twin wheel castors support durability due to the distribution of weight over a larger surface area throughout the chair.
- For peace of mind the HydroCare comes with a two-year warranty on the frame and a one-year warranty on all other parts and labour.

Infection Prevention & Control (IPC)

- Specialist seating systems within health and social care environments can be a cause of cross-contamination and therefore IPC must be considered during the assessment and prescription processes.
- Vapour permeable fabric to the seat and back rest, and a waterproof interliner to the cushion, can aid IPC measures.
- A chair protector is also available, which reduces the risk of contamination and stops debris getting trapped in the moving parts of the chair.



WaterCell Technology

- CareFlex WaterCell Technology provides a reliable and dynamic pressure care solution for people at medium to high risk of pressure injury.
- WaterCell Technology enables the individual to achieve a stable and functional posture without compromising on pressure care and comfort.
- The water cells work by allowing the seat cushion to contour naturally and effectively around the user's body.
- The layer of visco-elastic memory foam moulds to the shape of the buttocks and thighs, distributing weight over a larger surface area and minimising pressure build-up under bony areas.

Adjustability

- Every chair must be set-up to fit its user; if it is not then it can cause more harm than good.
- The HydroCare is available in a range of seat sizes, with nine combinations of seat height and seat width achievable, ensuring an appropriate set-up for a wide range of users to promote optimal function and comfort.
- Correct seat width can reduce the tendency for the user to lean or shuffle the pelvis. These undesirable movements can result in pelvic obliquity or pelvic rotation and the posture becoming increasingly unstable with unequal loading on tissues. Left unmanaged, this leaning posture could lead to the development of a scoliosis.
- Seat height is important for maintaining independence and function if the user is ambulant or able to rise to standing for transfers. If the chair's seat height is too high, the user will be unstable when they rise to standing or it will encourage posterior pelvic tilt as the user seeks foot support. If seat height is too low then they may not have adequate strength to complete a sit to stand. If the user is hoist transferred, then correct seat to foot rest height is needed to achieve adequate foot support, which is critical for pelvic and upper trunk stability.
- Adjustable seat depth can also encourage pelvic stability and equal weight distribution. Together with the HydroCare's choice of seat angle, this ensures correct pelvic alignment and prevents a posteriorly tilted sacral sitting posture, reducing the risk of skin damage related to pressure, shear and friction forces.
- If the seat depth is too long, the user won't be able to flex their knees over the seat edge so they will slide forward in the chair to allow knee flexion. If the seat depth is too shallow the area over which body weight is distributed may be reduced, which increases the risk of pressure injury.

Back Angle Recline*

- Back angle recline adjusts the angle between the chair and seat back promoting comfort, relaxation and energy management for the user.
- Back Angle Recline can accommodate reduced range of movement at the hips, alleviating pain associated with the lower limbs, and reducing abdominal pressure.

Flat Back

- The flat back option consists of a foam structured cushion with a mid-lumbar change of angle to fully support the back.

Waterfall Back

- The waterfall back option consists of a lumbar, thoracic and head section that encourages trunk alignment whilst promoting comfort.
- Wadding can be configured to accommodate kyphotic or lordotic postures to reduce the pressure at the apex of the curve and fully support the spine.

Contoured Back

- The contoured backrest promotes long-term comfort and pressure distribution via simple conforming support to the lower back in both sitting upright and in a tilted position.
- It provides gentle lateral support for the upper trunk and centralises the posture with contoured pads whilst allowing movement.
- This may be indicated for users who present with limited sitting ability due to weakness, abnormal muscle tone or fatigue.

Block Leg Rest

- The addition of a block leg rest can promote extra safety, security and comfort.
- It has a foam topper for basic pressure redistribution.



Padded Sliding Footplate

- Insufficient foot support can negatively impact on postural stability and pressure risk; individuals naturally seek support through the feet to obtain the proprioceptive feedback required.
- A sliding footplate provides comfort and support to the feet, especially during portering.
- The addition of a shallow or deep footplate pillow can promote greater levels of comfort.

The HydroCare

Clinical Justification

Soft Headrest

- A comfortable rectangular pillow, available in shallow and deep, can support the head if an individual presents with weakness or fatigue.

Soft Profiled Headrest

- A contoured pillow that comfortably supports the shoulders, neck and head to encourage head alignment for interaction and optimum physiological function for users with reduced head control.

InLine Headrest

- Memory Foam lining providing full cranial support with cut-away sides for unobstructed sight and hearing.
- Vapour permeable fabric to all contact areas.

Soft Pillow Headrest

- A deep, ultra soft pillow that conforms to the shape of head and shoulders providing a higher level of comfort.

Neck Headrest

- Has a deep profile to give greater lateral control.



Foam Headrest

- Available in shallow, medium and deep, providing basic lateral head control.

Belts & Harnesses*

- A padded pelvic belt is an intervention that is available for anterior pelvic stabilisation and can be used as a safety belt when portering clients.



Tray

- A tray with low profiled edges can be prescribed to offer further upper limb support and enable engagement in activities or occupation.

Support Network Considerations

- It is imperative that the client's support network and the environment in which the chair will be used are considered to ensure compliance and consistency of use.
- Four foot-operated braked twin wheel castors spread the chair's load over a larger surface area, aiding manoeuvrability of the chair within the user's environment.
- An angle adjustable seat base can also aid positioning by utilising gravity to stabilise the pelvis at the back of the chair.

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The HydroCare

Case Study

Terrance's Story

Terrance is an 81-year-old cheerful gentleman who has lived a good life with a family full of children, grandchildren and great grandchildren.

Terrance lives at home with his wife and one of his daughters, who has recently taken on a carer role for her parents. CareFlex were contacted in the hope of determining the best specialist seating system to not only improve Terrance's quality of life but also that of his family by supporting their caring responsibilities.

Terrance was presenting with fragility; he was becoming increasingly fatigued throughout the day and less mobile, requiring assistance to complete standing transfers. He was complaining of stiffness and pain in the afternoon, and requesting a period of rest in bed; this was becoming distressing for Terrance as it was impacting on his daily routine.

On assessment, it was evident that Terrance was presenting with the following postural challenges, exacerbated by fragility and inappropriate seating at home:

- General weakness and fatigue
- Pelvic instability with a posterior pelvic tilt
- Poor postural control with a developing kyphotic posture

Consequently, Terrance was at an increased risk of falls, developing a pressure injury, physiological functional decline and limited engagement. It was essential that Terrance's posture and pressure care needs were managed across the full 24-hours to reduce the aforementioned risks, including through the provision of a specialist seating system.

It was agreed that we would trial the HydroCare as it incorporates various features that promote a sense of stability and security:

- Adjustability with seat height and seat width tailoring to a wide range of body shapes and sizes ensures a comfortable set-up and the appropriate management of Terrance's posture and pressure care needs whilst optimising functional movement.
- A seat with adjustable depth and angle promotes pelvic stability, and reduces the risk of Terrance sacrally sitting and sliding down the chair.
- Back angle recline adjusts the angle between the chair and seat back promoting comfort, relaxation and energy conservation to manage Terrance's pain and fatigue.
- The waterfall back can be reconfigured to support Terrance's spinal posture. The addition of a soft profiled headrest further provides supportive positioning for his increased thoracic kyphosis.
- The sliding padded foot plate adequately supports and protects the feet during portering to enable safe interaction around the home. It also allows the feet to stabilise securely on the floor during standing transfers to reduce the risk of falls.
- Integrated pressure management with WaterCell Technology and adjustable seat depth encourages maximum support and equal weight distribution with the aim of reducing the risk of pressure injury due to inactivity.

The HydroCare is also designed with the user's support network in mind; four fully braked twin wheel castors distribute the chair's load over a larger surface area, making it easier for Terrance's daughter to manoeuvre the chair around the environment.

Following the provision of Terrance's new HydroCare, Terrance and his family were extremely grateful for the positive impact correct seating had on all their lives. Terrance was now comfortable and able to conserve his energy to focus on daily activities that meant a lot to him; he was able to interact meaningfully with his family and a sense of normality had returned to his life. Terrance's daughter also reported a remarkable change in the pressures she was feeling as a carer due to simple chair usability and reduced physical dependency.
At CareFlex, we strongly believe in our ethos: we strive to balance posture and pressure management with the individual's own goals, whilst promoting comfort, independence and a meaningful life.

Specialist seating is not all about achieving that one perfect posture, it is about finding an individual's optimum posture that enables them to live their life to the fullest; a true holistic approach to postural management and pressure care.

Get in touch to arrange a free no-obligation assessment if you think you, your client, or your loved one need specialist seated support, like Terrance, from CareFlex specialist seating.



DISCLAIMERS

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*Tilt-in-Space and Back Angle Recline should always be prescribed responsibly, ensuring that they are safe and appropriate for the user following a comprehensive assessment of posture and risk, with advice sought from the multi-disciplinary team where indicated. In some cases, these functions will be contra-indicated, and they could also increase shear and friction forces.

*All belts and harnesses must also be prescribed, implemented and monitored responsibly following a comprehensive risk assessment. Please see the Device safety information alert for further information: www.gov.uk/drug-device-alerts/all-posture-or-safety-belts-fitted-to-supportive-seating-wheelchairs-hoists-and-bathroom-equipment-risk-of-serious-injury-or-death

The information given in this book represents current advice at the time of publication. It is intended as general information and guidance and is not a substitute for professional medical advice which should be sought for specific, individual cases. It is the responsibility of the treating clinician, relying on independent knowledge and skills, to determine the best intervention and method of application for the client.

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