Ability based seating
Sit better. Move better. Feel better.

Etac Cross 5
Etac Cross 5 – A platform of possibilities

The Etac Cross 5 offers an unparalleled range of adjustments allowing it to be tailored to individual needs.

Improved activity and mobility
Etac Cross 5 offers many options for individual settings that create comfort and trunk stability. The frame’s rigidity and “fine tune” settings for propulsion make the Cross 5 quick to react, even for users with low activity levels. This is important for increased mobility and activity.

Unique frame design
Our efforts to design the best folding wheelchair in the world didn’t stop at the seating. By combining our unique moulded side frame with our strongest double cross brace, we removed flex from the frame to create a very stable platform. This means that more of the effort from pushing is converted into motion.

Bengt Engström tells us about wheelchair adjustment

Bengt Engstrom, PT, seating consultant and appreciated seminar presenter has made an evaluation of the Cross 5 back support.

Learn more from Bengt’s experience »

Learn more about Cross 5 at our homepage »
Unique support for unique needs

*Etac Cross 5 is equipped with a unique back support, adjustable in height, angles and contour. These features stabilize the pelvis, support the spine and provide customized comfort for a user’s unique needs.*

Back support frame

- The pelvis and the thoracic back are supported independently of each other.
- The adjustments can be performed with the client positioned in the chair.

Learn how to adjust the back support lumbar angle »

Learn how to adjust lower back support angle »

Adjustments for special needs

The 3A back support adjustments provide excellent conditions to customize the back support for clients with special needs.

Learn more about adjustments for special needs in Extra material on page 11.

The final fine-tune

With six adjustable Velcro straps, a figure-hugging support for the pelvis and spine is created. The plush cover has built in stretch to ensure a perfect contour to the Velcro strap adjustment. This combination enlarges the contact area and thereby evens out the pressure distribution.

Learn how to adjust back support Velcro straps »

Learn how to adjust back support cover »
Ability based seating

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The position of the user will influence the activity performance. Performing an activity may at the same time influence positioning. Stability and postural control are two key factors for every wheelchair user.

Case study: Lauren, 11 years

Lauren has Cerebral Palsy and her previous wheelchair provided inadequate support. Lauren also sank into her seat causing kyphosis. She pushed against the fixed footplate which meant she was often in a poor position. Her family sought a replacement wheelchair that could provide optimal back support for a growing child and the correct seating position to resolve these issues.

Learn how Lauren got on when she trialled the Etac Cross 5 in the Extra material on page 17.
Case study: Mannan, 65 years

Mannan had a stroke a year ago. He presents with paretic right side, increased muscle tone in his right leg with external hip rotation. He has reduced function in his left arm and hand. His current wheelchair is now too narrow, he has back pain, slides forward and has problems with foot propulsion. It is heavy and his left foot hits the front castor. He has aphasia, but can communicate.

Clinical signposts

From “Biomechanical Considerations for Wheelchair foot propulsion“:

“Since forward propulsion promotes flexion of the spine, posterior pelvic tilt, and anterior migration of the pelvis toward the front of the chair, a contoured cushion can be used to stabilize the pelvis [...] In addition, a solid horizontal or slightly anteriorly sloped seat will promote heel strike and anterior pelvic tilt with extension of the spine. Sacral support must also be considered to prevent the pelvis from rotating posteriorly.”
Cross 5 for various needs

**Cross 5 is easy to adjust and with a wide range of accessories, it provides numerous configurations to suit different user’s needs. These include:**

**XL**
Cross 5 is available in XL sizes. The 3A back support provides sufficient space, comfort and support for larger users.

**Active**
Cross 5 Active is equipped with lightweight rear wheels and can be adjusted for active users. If more postural support is needed, the chair can be readjusted and accessories added.

**Foot propulsion**
The seat height can be set as low as 14” (36 cm). With the widened castor housings, the user has plenty of space for foot propulsion.

**Amputation**
With a high amputation the weight distribution is affected. By adding a counter weight, the rear wheels can be set in a more forward position which facilitates propulsion.

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Learn more about some special features in Extra material on page 10.

See more accessories at our homepage »

Etac Cross 5 Workbook
Options for safe transfer

Safe transfers to and from the chair and the possibility to reposition is important for every wheelchair user.

Transfer and repositioning with Molift Quick Raiser

Molift Quick Raiser sit to stand hoist is a transfer aid for people with some weight bearing ability. Its compact design makes it easy to manoeuvre in confined spaces. The ergonomically designed RgoSling is easy to place around the user’s back making transfers quick and easy without putting strain on either the carer or user.

Smart and smooth transfer with Immedia E-board

Immedia E-Board is a thin and flexible transfer board that allows easy application and removal. It’s especially suitable for more active and independent users. It is compact and lightweight and has an integral handle.
In 1977, a young man named Bosse had an accident with a tractor, resulting in a spinal injury. His active nature was incompatible with the wheelchairs of the time, so Bosse went home and started to adjust his non-adjustable wheelchair. He turned his garage into a workshop and created wheelchairs for long distance racing for himself and for his friends.

He became successful in his sport and a local celebrity. A factory owner heard an interview with Bosse on the radio, and was very impressed. He found Bosse and they reached an agreement to start developing new models of wheelchairs on a larger scale.

By 1982, three new wheelchair models were introduced – the Swede wheelchairs, and later came the Swede Elite, which became a big success. In the early 1990’s, Bosse set his mind on building the best cross folding wheelchair on the market – soon after Etac Cross was launched.

The rest is history and Bosse is still working for Etac, managing the product development department. His mind is still set on building the best wheelchairs on the market.
Etac Cross 5 features

What makes Etac Cross 5 unique?

Here are a few features that answer that question.

Frame sides
Our aluminum frame sides are moulded in one piece so are not welded. The strong base, offers many adjustment options to customise for the user.

Double cross frame
The double square tubes connect directly to the lower part of the frame sides and the seat tubes connect to the upper part. When locked into position they stabilize the frame giving the properties of a rigid framed wheelchair.

Rear wheel attachment plate
Cross 5 offers 38 different rear wheel positions! The seat height can be set as low as 14”. The same anti tippers can be adjusted for all seat heights.

Front seat height adjustments
Choose castor and fork size. The castor has three alternative height positions in the fork. The castor housing is also adjustable in height.

Back and seat cushion covers
– We love plush!
Made of a soft and stretchy plush fabric, it contours perfectly to the back strap tension and distributes the pressure over a larger surface area. The covers have been successfully tested for wear and tear, stretching and breathability qualities and their reaction to UV and washing. Now also OEKO-TEX certified.

Fitted hygiene covers
Cross 5 is also available with fitted back and seat hygiene covers, made of Dartex. They are water repellent with welded seams which ensure that the foam padding is protected from moisture. They are also very easy to clean.
A combination of height, angles and contour.

The 3A back has both lower and lumbar angle adjustments. This means that the pelvis and thoracic spine can be carefully supported. All back support adjustments are interdependent, which means that a change such as lumbar angle may result in a readjustment of the back straps. A substantial advantage of the 3A back support is that you can do the adjustments with the user sitting in the Cross 5.

How to work with the 3A Back Support

Before the client is seated in the Cross 5

1. **Set the desired back support height**
   Once seated in the chair, further adjustments can be made (+/- 25mm).
   If greater adjustment than this is needed, the user will need to transfer from the chair. Always include the height of the seat cushion when setting the back height.

2. **Check the lower back support angle**
   In most cases it is recommended to have the seat to back angle between 91-95°.

3. **Start with a low tension in the back straps**
   Individual strap adjustment can then ensure the back support moulds and provides support in the right places for the user.

4. **Place the back cover over the back support**
   Make sure the cover creates a “pocket” in between the seat and the backrest. This further ensures that the user will have improved back support without forcing the pelvis posteriorly.

When positioning client into the Cross 5

1. Place and prepare chosen seat cushion correctly on the seat.
2. Make sure the client is positioned with contact to the back support from the seat base.
3. If needed, change the lower back angle.
A client with an upright trunk position (neutral pelvic and spine position)

1. Set the back height under the shoulder blades.
2. Tighten the strap in level with PSIS (Posterior Superior Iliac Spine) so the pelvis can maintain an upright position. If needed readjust the lower back angle.
3. Adjust the lumbar angle to achieve best trunk balance.
4. Check/adjust the upper strap. The upper back strap should "embrace" the client’s thoracic back. The lumbar angle adjustment and the upper strap tension are closely correlated.
5. Adjust the straps in between the upper strap and the pelvic strap so they follow the curve of the back.
6. The strap(s) below the pelvic strap should be loosely adjusted in order to provide space for the buttocks.

A client with lumbar hyperlordosis

For these users it may be necessary to preset the lower back with a seat to back angle less than 90°.

1. Set the back height under the shoulder blades.
2. Tighten the strap in level with PSIS sufficiently to gently support without forcing the pelvis forward.
3. If needed readjust the lower back angle.
4. Adjust the lumbar angle to achieve best trunk balance.
5. Check/adjust the upper strap. The upper back strap should embrace the client’s thoracic back. The lumbar angle adjustment and the upper strap tension are closely correlated.
6. Adjust the straps in between the upper strap and the pelvic strap so they follow the curve of the back.
7. The strap(s) below the pelvic strap should be loosely adjusted in order to provide space for the buttocks.
A client with thoracic kyphosis

For this user group, it may be necessary to preset the lower back with a seat to back angle of 93 - 98 degrees.

1. Set back height under the shoulder blades or at the top of the kyphosis.
2. Tighten the strap level with PSIS sufficiently to gently support in an as upright position as possible while maintaining the users comfort.
3. If needed readjust the lower back angle.
4. Adjust the lumbar angle to achieve best trunk balance. It may be adjusted slightly forward in order to follow the shape of the users back.
5. Check/adjust the upper strap. The upper back strap should "embrace" the users thoracic back.
6. The lumbar angle adjustment and the upper strap tension are closely correlated.
7. Adjust the straps in between the upper strap and the pelvic strap so they follow the curve of the back.
8. The strap(s) below the pelvic strap should be loosely adjusted in order to provide space for the buttocks.

An Obese Client

For these users it may be necessary to preset the lower back with a seat to back angle of 93-98°.

1. Set back height under the shoulder blades.
2. Tighten the strap in level with PSIS so the pelvis is supported as upright as possible whilst maintaining the users comfort.
3. If needed, readjust the lower back angle.
4. Adjust the lumbar angle to achieve best trunk balance.
5. Check/adjust the upper strap. The upper back strap should “embrace” the client’s thoracic back.
6. The lumbar angle adjustment and the upper strap tension are closely correlated.
7. Adjust the straps in between the upper strap and the pelvic strap so they follow the curve of the back.
8. The strap(s) below the pelvic strap should be loosely adjusted in order to provide space for the buttocks.
Case study – Mannan

Presentation of Mannan

Mannan is 65 years old and had a stroke in February 2015. He presents with a paretic right side, increased muscle tone in his right leg with external hip rotation. He has reduced function in his left hand and arm. Mannan has aphasia, but can communicate.

Background

Mannan is using an old version of Etac Cross. He uses his left foot and arm to propel. Co-ordination between his left arm and foot is poor. He uses his wheelchair all the time and undertakes standing transfers with assistance. He lives in a modern apartment with his wife who finds assisting him difficult.

Due to inactivity, he has gained some weight and now finds the wheelchair too narrow. When foot propelling, his left foot hits the front castor and his right foot tends to slide off the foot support. He also has back pain and slides forward. The seat cushion has raised edges which causes pain in his left thigh.
First session

Assessment at the Assistive Technology Center, Sodexo, Stockholm

Since he needs a wider seat, a new chair has to be selected. The Cross 5 has improved adjustment possibilities both for positioning the back and settings for propulsion.

An initial assessment is performed to test seat height, back support height and angles.

It is also decided to change to a seat cushion with more stability and positioning features but without lateral raised edges. In order to set appropriate seat height combined with a comfortable houlder/arm movement, 22” rear wheels are selected.

Second session

Time for Mannan to test the new Cross 5 and do the “fine tune” adjustments.

Since Mannan and his wife found it difficult to inflate the tyres, we have decided to change to solid tyres. Finally we have moved the rear wheel one position forward to further facilitate propulsion and assist his wife when pushing outside.
The foot support angle is adjusted to accommodate 90° at the ankle.

The right foot support is equipped with an extension. The wider castor housings allow more space for foot propulsion.

The positioning belt attached on the frame sides combined with the contoured seat cushion prevents him from sliding forward. Mannan is very pleased, but would benefit from propulsion technique training.

The cushion is “carved” out on his left side. This lowers his left leg but also allows him more space for knee flexion.
Case study – Lauren

Versatile Cross 5 wheelchair delivers enhanced seating possibilities for 11 yr. old Lauren with Cerebral Palsy

Lauren, 11, from Salisbury in Wiltshire, uses an Etac Cross 5 wheelchair that offers multiple options for improved sitting positions and manoeuvrability.

Lauren, an engaging pre-teen, was diagnosed at 4 months old with Cerebral Palsy (CP) and has a history of epilepsy, currently under control with medication. Lauren happily splits family time between her mum Ann’s house and her dad Kevin’s house that he shares with partner Nicola and her children, Tom and Harry, age 10 and 12. The extended family are extremely supportive of each other and determined to provide ideal care for Lauren’s requirements. When Lauren broke her leg falling from a swing in 2015, Kevin took a month off work and he, Nicola and Ann worked together to provide Lauren with vital support in both homes – including carrying her to upstairs bedrooms and endeavouring to maintain a normal routine for Lauren, which is so important to her.

Following this difficult period, Lauren is now happily 90% recovered and the family aim to keep Lauren as mobile as possible. Although she has a right-sided hemiplegia and wears a caliper to keep her ankle straight, Lauren enjoys walking at home and using the stairs. Lauren attends Exeter House Special School where she uses an R82 Crocodile walker, receives physio on a weekly basis and regular use of the hydro pool.

Etac provides a wide range of specialist assistive products for children and adults with disabilities. The lightweight and versatile Etac Cross 5 is an effective and popular wheelchair across Europe.
Lauren requires a specialist wheelchair for longer distances as she has Hypotonia in her trunk, meaning she has low tone. She needs a chair that supports her in an upright seating position, with a 4-point lap belt to keep her hips fixed. Unfortunately, a chair provided by Wheelchair Services, provided inadequate support and caused Lauren to sink into the seat, which in turn has led to rounded shoulders. Lauren also used the fixed footrest plates to push away. The family sought a replacement wheelchair that could provide optimal back support for a growing child and the correct seating position to resolve these issues. Ideally they also needed a wheelchair that could be easily folded and lifted into a car. They were fortunate to meet Etac R82 Product Advisor Sarah Aspinall who was visiting Lauren’s specialist school to demonstrate Etac’s Cross 5 wheelchair.

Cross 5 – A platform of possibilities

Designed by Bosse Lindquist, a paraplegic and experienced developer of specialist disability products, the Cross 5 is a unique foldable wheelchair that feels rigid due to an innovative crossbar.

A bespoke wheelchair with an enormous range of variation options, the Cross 5 provides maximum comfort and functionality. It can be easily configured to cater for a growing child or adult, and includes 38 wheel positions, adjustable seat depth and castor height. Importantly, the chair’s 3A backrest means it can support a range of back shapes including Kyphosis – unlike basic reclining wheelchair backrests. The Cross 5 comes with a seat cushion, swing-away detachable leg rests, flip-up adjustable footrests, height adjustable arm supports and anti-tippers as standard.

Etac also provides a wide range of accessories for the Cross 5, from back, arm and side supports through to leg rests and brake options that suit all user requirements.

Sarah Aspinall felt the Cross 5 would provide Lauren with ideal posture positioning to help with the low tone in her trunk. She explains: “Crucially, the shape of the Etac Cross 5’s back rest can supply Lauren with maximum support through her spine whilst still allowing her free movement in the wheelchair. The unique 3A backrest and seat are adjustable in height, angle and shape and the footrests can be set in different positions. So not only can the wheelchair be made bespoke for Lauren’s current needs, but simple alterations will allow for growth spurts or changing body shape. The Cross 5 can provide Lauren with enhanced balance and stability, meaning she is less likely to slide forwards in the seat.”

Sarah recommended Lauren trial the Cross 5, and arranged a home visit to make the necessary fitting adjustments and personalise the chair for Lauren’s frame and requirements. The family immediately noticed that Lauren appeared “more upright and straighter” in the Cross 5.
Lauren’s mum, Ann, elaborates: “Lauren’s previous wheelchair was too small for her frame and was not able to cope with low tone requirements. As a result, Lauren appeared to sink into her seat and did not enjoy using the chair. The Cross 5’s adjustable backrest provides the support and stability she needs to sit in a more suitable position. As a result, her posture has improved and she appears far more comfortable.” The additional benefit of adjustable footrests means she can sit in the Cross 5 with 90° in her knee and foot angle. This, combined with the correct seat depth and an upright pelvis/trunk posture, means she is not pushing back and the chair can be placed closer to a table, for example, for easier social interaction at school or during mealtimes.

Lauren’s family are also delighted with how lightweight the Cross 5 is. Ann comments: “The old wheelchair was very awkward to manoeuvre and handle but the Cross 5 is easily folded and the wheels are removable. I can now lift the chair by myself into my Motability vehicle. As Lauren travels to school on the school bus, her wheelchair needs to be suitable for this as well. The Etac Cross 5 can be secured safely on the accessible school bus. Sarah has arranged for a headrest accessory to be fitted so that the chair is fully set up for transportation.”

Following a successful trial, Lauren’s family hope Wheelchair Services will be able to provide them with Etac Cross 5 wheelchair permanently.

Lauren’s dad, Kevin summarises: “It is important to us that Lauren keeps as active as possible and is able to participate in family life. Whilst Lauren can successfully walk shorter distances, she is reliant on a wheelchair for many activities and the Etac Cross 5 ticks all the boxes. Whether visiting the local science centre, which Lauren loves, or walking our dog, Max, the Cross 5 wheelchair makes everything easier and more practical. As it is lightweight and foldable we can easily take it on holiday when we go to Lauren’s favourite caravan park. Best of all, because Lauren is now seated correctly in an upright position and supported through the spine, she can enjoy stargazing with her much loved telescope.”

R82 and Etac

R82 UK Ltd is an Etac Group company supplying R82, Etac, Molift, Immedia and Convaid branded products in the UK and Ireland from a head office base in Halesowen, Birmingham. The extensive range of high quality assistive products for disabled children and adults includes wheelchairs, buggies, standing, walking, toileting and bathing aids as well as manual and mechanical transfer aids. Sales and distribution of these products is supported with service and repair back up from a base in Basingstoke.

The parent company Etac AB is based in Stockholm, Sweden with manufacturing sites across Scandinavia. The Etac Group has a truly global reach with further subsidiary companies in the USA, Europe, Far East and Australia. The most recent acquisition of US buggy manufacturer Convaid has further strengthened the Etac Group’s product portfolio worldwide.