Saebo

"The secret of your success is found in your daily routine."

TOP 10 EVIDENCE-BASED STRATEGIES FOR

UPPER LIMB RECOVERY

This guide, combining cutting-edge research and **expert insights from scientists worldwide**, delivers proven approaches to enhance arm function and reduce spasticity following stroke.

No Plateau in Sight®

A MESSAGE FROM THE CLINICAL TEAM AT SAEBO

Recovery is a journey, and **every small action matters**. At Saebo, we help stroke and brain injury survivors reclaim movement, confidence, and independence. Our guide shares the most effective, evidence-based strategies for hand and arm recovery. Whether you are just starting or have been on this path for a while, these proven strategies are designed to support your progress and reignite your hope.

Let's take steps forward—**together**.

Top 10 Proven Recommendations from Experts Around the World

Intervention and Usage Chart

A Guide to Saebo Products for Post-Stroke Recovery

No.	Intervention	Explanation	Saebo Solution	Usage Recommendation
1	**Electrical Stimulation (NMES & FES)**	A targeted electrical current contracts a muscle, helping to build strength, improve motor recovery, and facilitate task practice with limited movement.	SaeboStim One or SaeboStim Pro	Shoulder subluxation– up to 6 hours per day Other muscle groups– 30 minutes per muscle daily
2	**Mirror Therapy**	To stimulate motor recovery, mirror therapy uses the reflection of the unaffected hand to “trick” the brain into rewiring and relearning movement patterns for the affected limb.	SaeboMirror Box	2-8 weeks 5-7 times per week 15-60 minutes sessions
3	**Mental Practice**	Mental rehearsal of movements or a task without physically performing them.	Saebo Mind Mental rehearsal of tasks before you perform them	10–60+ minutes daily Mentally practice before each physical task
4	**Task Practice**	Repeated practice of part or complete task, appropriate to your ability, and what is important to you.	SaeboGlove Consider: SaeboStim Pro (Using the trigger button)	Daily, high-volume repetitions (100s), spaced out Integrate practice into your daily routine Progress from parts of a task to the whole task for optimal learning
5	**Constraint Induced Movement Therapy (CIMT)**	Forces use of the affected arm by constraining the strong one, rewiring the brain for better movement.	SaeboGlove can provide a modified version if you don't meet the CIMT criteria	2 weeks, 6 hours daily Modification: 2-4 Weeks, 4 hours daily

Intervention and Usage Chart

A Guide to Saebo Products for Post-Stroke Recovery

No.	Interven-tion	Explanation	Saebo Solution	Usage Recommendation
6	**Repetition Repetition Repetition**	Many repetitions are required per day to make cortical changes or re-wire the brain.	SaeboGlove or SaeboFlex for grasp and release depending on spasticity. SaeboStim Pro (NMES) or SaeboStim One for repetition of specific muscle groups and movements. Consider SaeboMAS Mini if weakness at the shoulder.	100s of repetitions. Can be done in small, frequent sessions throughout the day.
7	**Aerobic Exercise**	Regular physical activity improves fitness, heart health, strength, and balance, while also lowering blood pressure and enhancing mood and quality of life.	Join a walking group, gym, or exercise class. (Consult a professional before returning to exercise.) Consider a seated exercise group (in-person or online) if mobility is limited.	Incorporate aerobic activity into your daily routine for lasting benefits. Begin at any point in your recovery journey and gradually increase the frequency, time, and intensity as you are able.
8	**Spasticity Mgmnt**	Reduce muscle stiffness and improve function by actively managing spasticity with a combination of therapies, medications, and devices.	SaeboStretch SaeboStim One SaeboGlove Once spasticity is managed.	**SaeboStretch:** 6 hours per day, ideally over night **SaeboStim One:** 30 minutes per day on targeted muscles **SaeboStim Glove:** Wear through-out the day for task practice.
9	**Resistance Training**	Exercise that builds strength by working your muscles against resistance.	Lifting weights, resistance bands, wall push-up or squat	2-3 times per week
10	**Goal Setting**	Staying motivated comes from setting meaningful goals together.	Follow us on social media for tips, inspiration and motivation from other Stroke Survivors	Consider a weekly planner, written diary, or activity log. Videos of progress can help to stay motivated and see how far you've come.

RECOMMENDATION

#1: Electrical Stimulation: NMES or FES

Uses currents to stimulate muscles, build strength, and aid in movement.

What is it?

An electrical current stimulates nerve activity in a targeted muscle to elicit a muscle contraction.

Why this is Essential.

This can help build strength, enhance motor recovery and enable task practice when weak or no movement. If the movement generated is used to help practice a task this is FES (Functional Electrical Stimulation) and if used in isolation with no task it is considered NMES (Neuromuscular Electrical Stimulation).

Saebo Products:

SaeboStim One: Wireless, quick and easy to use with just one pre-set program—suited well for shoulder subluxation.

SaeboStim Pro: Two channels to allow stimulation of two muscles at the same time, wider variety of programs and electrode size choice. It is ideal for practicing tasks because of its trigger button which gives you control of when the stimulation comes on and off.

Usage Recommendation

For shoulder subluxation wear up to 6 hours per day.

For other muscle groups, consider using for 30 minutes per muscle per day.

Ideally aim to use to practice part of, or a complete task if movement allows. This is when the stimulation is termed “FES” or Functional Electrical Stimulation and is the gold standard to aim for.

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Clinical Resource #1

Clinical Resource #2

Clinical Resource #3

RECOMMENDATION

#2: Mirror Therapy

Mirrors “trick” the brain into re-wiring, improving arm and hand function.

What is it?

A rehabilitation tool that uses mirror therapy to stimulate motor recovery by reflecting the movement of the unaffected hand and helping restore function.

Why this is Essential.

The visual input, along with the attempted movement of the affected limb, can stimulate the brain’s neuroplasticity, encouraging the brain to rewire and relearn movement patterns.

Saebo Product:

SaeboMirror Box: Can be opened up with one hand and has a large aperture to make it easier for the forearm and hand to be positioned inside comfortably. It’s worth noting that you can combine Mirror Therapy with NMES or Sensory Stimulation (using our mesh glove and sleeve with the SaeboStim Pro) .

The SaeboMirror Box comes with exercise ideas to get you started.

Usage Recommendation

The best summary from current research is 15-60 minutes sessions, 5-7 times per week for a 2-8 week program.

Note: It can be used longer than 2-8 weeks.

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Clinical Resource #1

Clinical Resource #2

Clinical Resource #3

RECOMMENDATION

#3: Mental Practice/Motor Imagery

Visualize movements to retrain the brain and improve motor skills.

What is it?

Mental rehearsal of movements or a task without physically performing them.

Why this is Essential.

These can help retrain your brain to perform everyday tasks. It's based on the science of neuroplasticity, which is the brain's amazing ability to rewire itself after injury.

Saebo Product:

Saebo Mind is a **FREE** downloadable app. Each session is an audio recording that walks the listener through:

1. Relaxation and breathing techniques to calm the mind.
2. Mental rehearsal of a specific task (e.g., brushing hair, walking, opening doors).
3. Closing meditation to bring the listener back to awareness.

These sessions typically last 20–30 minutes and you want to find a quiet and relaxed space to perform this.

Usage Recommendation

From 10 minutes to 1 hour daily and can be more than once per day.

Also consider mentally completing a task 2-3 times prior to actively practicing it.

There is good evidence to support the combination of mental practice prior to task practice.

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Clinical Resource #1
Clinical Resource #2
Clinical Resource #3

RECOMMENDATION

#4: Task Practice

Repeat daily activities to build skill, coordination, and independence.

What is it?

Repeatedly practice parts of a task or the whole task, focusing on activities that match your ability and hold personal importance.

Why this is Essential.

This is ultimately what all stroke therapy is aiming for– being able to complete a task independently whether that is walking, opening a cupboard door, writing etc.

Saebo Products:

SaeboGlove: A dynamic hand splint that assists with grasp and release during functional tasks, helping you practice purposeful movement more effectively.

SaeboStim Pro: Use the trigger button to control the timing of stimulation and coordinate muscle activation with movement during therapy exercises. Pictured on page 6 of this guide.

SaeboMAS Mini: If shoulder weakness is limiting, this device can be added to support the arm and reduce the effects of gravity, making movement practice easier and more efficient.

Usage Recommendation

100's of repetitions per day– which can be spaced out during the day.

Try and incorporate into your everyday routine so that you are doing little and often throughout the day.

If practicing part of a task, ensure that you progress onto practicing the whole task for optimum learning.

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Clinical Resource #1

Clinical Resource #2

Clinical Resource #3

RECOMMENDATION

#5: Constraint Induced Movement Therapy (CIMT)

Restricts the stronger limb to strengthen the weaker one.

What is it?

A therapy approach that intensively practices the weak arm, restricts use of the unaffected arm, and promotes transferring learned movement into real-world tasks.

Why this is Essential.

This approach is essential because it drives the brain to reorganize and strengthen motor pathways responsible for movement in the affected arm. By intensively practicing tasks with the weaker arm while restricting use of the unaffected one, the brain is forced to relearn and rely on the impaired side. This promotes meaningful recovery rather than compensation.

Saebo Products:

SaeboGlove: Consider using our SaeboGlove for a modified version of CIMT if you don't meet the criteria. CIMT requires a small amount of active wrist, finger and thumb extension with some shoulder activity. The SaeboGlove can assist with a modified version of CIMT by enabling people with less than the criteria follow the CIMT protocol.

As with Task Practice, the SaeboMAS Mini could be added in if shoulder weakness is very limiting.

Usage Recommendation

The original format is a 2 week program with 6 hours of practice per day while wearing a constraint mitt on the unaffected hand 80% of the waking hours.

This is now often modified to 4 hours per day over a 2-4 week period.

The SaeboGlove enables those who don't quite meet the criteria to follow the CIMT protocol.

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Clinical Resource #1
Clinical Resource #2
Clinical Resource #3

RECOMMENDATION

#6: Repetition, Repetition, Repetition

Repeat movements to reinforce skill and improve function.

What is it?

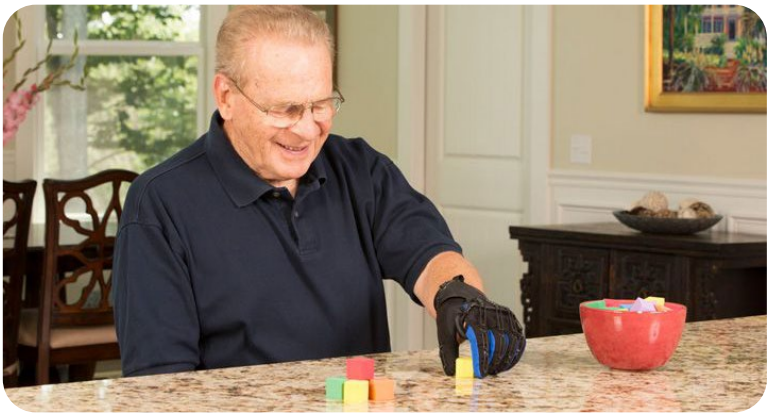
Repetition is the foundation of neuroplasticity and motor recovery. It involves performing the same movement or task hundreds of times each day to “rewire” the brain and strengthen new neural connections.

Why this is Essential.

The more frequently a movement is practiced, the more efficient and natural it becomes. Research shows that hundreds of repetitions—especially for hand opening and closing—are required to create meaningful changes in the brain. Whether movement is small or limited, consistent repetition is critical for restoring function and improving use of the affected limb over time.

Saebo Product:

SaeboGlove or SaeboFlex: Consider for grasp and release depending on your spasticity. The SaeboFlex is designed for hands with moderate to severe spasticity and the SaeboGlove when it is mild.



Use NMES with the SaeboStim Pro or SaeboStim One to target specific muscles, and add the SaeboMAS Mini to assist with shoulder weakness during repetition.

Usage Recommendation

100’s of repetitions are required per day. Repetitions can be spaced out during the day. Once you start counting your reps you will be surprised at how many you can achieve throughout the whole day.

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Clinical Resource #1

Clinical Resource #2

Clinical Resource #3

RECOMMENDATION

#7: Aerobic Exercise

Boosts cardiovascular health and supports overall recovery.

What is it?

Aerobic exercise is a form of physical activity that raises your heart rate and breathing to improve overall cardiovascular health and support brain recovery.

Why this is Essential.

Aerobic exercise improves cardiovascular fitness, lowers blood pressure, enhances strength and balance, boosts mood, and elevates overall quality of life—all benefits supported by research in people recovering from stroke.

Saebo Guidance:

Join a walking group, gym, or exercise class suitable to your ability. Seek professional guidance to return to exercise if required. If you are less mobile, consider a seated exercise group in the community or online from your own home.

Saebo has an exercise guide online, as does the American Stroke Association.

Aerobic activity can be introduced at any point during your recovery journey, and can continue for many years later.

Usage Recommendation

Try to incorporate it into your daily routine for longer lasting benefits. Gradually increase frequency, time, and intensity as able.

Read the Research »

Clinical Resource #1
Clinical Resource #2
Clinical Resource #3

RECOMMENDATION

#8: Spasticity Management

Reduces muscle tightness to improve comfort and movement.

What is it?

Spasticity management focuses on reducing abnormal muscle stiffness to create a crucial window for neuro-plasticity and active recovery.

Why this is Essential.

Spasticity is a brain-based issue that can cause muscle changes, contractures, pain, and reduced function, limiting recovery. Effective management rewires neural pathways and often requires a multi-pronged approach, including therapy (PT, OT, NMES), oral medication, chemo denervation (e.g., Botox), and sometimes surgery.

Saebo Products:

SaeboStretch: Helps tackle secondary muscle shortening.

SaeboStim One: Reduces spasticity while strengthening muscles and promoting motor activity.

SaeboGlove: Supports task practice and functional movement once spasticity is under control.

Usage Recommendation

SaeboStretch: 6 hours per day, ideally over night for a gentle and low load stretch. This could be post Botox injection for optimum benefit if indicated.

SaeboStim One: 30 minutes per day on the targeted muscles.

SaeboGlove: Once spasticity is under control, this can be worn throughout the day for task practice.

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Clinical Resource #1
Clinical Resource #2
Clinical Resource #3

Pro Tip:

Combine the SaeboStim One (pictured left) with the SaeboStretch for very tight hands to protect finger joints and promote more effective muscle contractions.

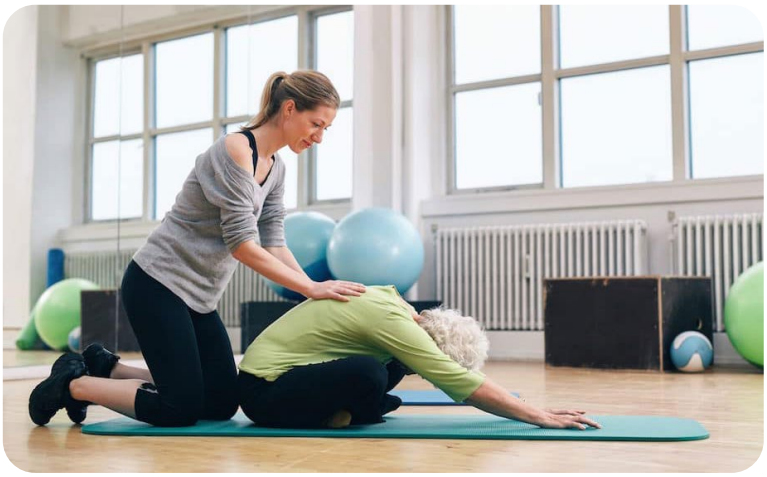
RECOMMENDATION

#9: Resistance Training

Builds muscle strength to enhance mobility and independence.

What is it?

Resistance exercise strengthens muscles by working against weight or resistance—using bands, weights, or your own body—and everyday activities like carrying groceries or climbing stairs also count.



Why this is Essential.

Research shows that post-stroke resistance training can improve muscle strength and power—including explosive power to help reduce fall risk—enhance walking speed and frequency, and boost overall health-related quality of life.

Saebo Guidance:

The Stroke Association has 4 or 12 week program online that you can sign up for if a gym is not accessible to you. And, it can be safe and gentle depending on your ability.

For example:

- Sitting and lifting light weights.
- Standing and doing leg exercises with support.
- Using stretchy bands to work arm muscles.
- Practicing getting up from a chair. Add weights to progress.

Usage Recommendation

Aim for 2-3 times per week. A trainer or gym instructor can offer personalized guidance.

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Clinical Resource #1

Clinical Resource #2

Clinical Resource #3

RECOMMENDATION

#10: Goal Setting

Set clear targets to guide progress and maintain motivation.

What is it?

Goal setting is the process of choosing specific, meaningful objectives to guide and motivate your rehabilitation and track progress over time.

Why this is Essential.

Setting meaningful goals helps you stay motivated throughout your rehab journey. They keep you focused during the ups and downs and can be established with the support of your therapy team, family, or on your own.

Saebo Guidance:

To stay committed to your goals, consider joining an exercise group or social club with others in similar situations who can support and motivate you along the way.

Follow us on Facebook or Instagram for tips, inspiration, and encouragement from Saebo and fellow stroke survivors—we're here for every step of your journey, not just the beginning.

Usage Recommendation

Consider a weekly planner, written diary, or activity log.

Recording videos of your progress can be a powerful way to stay motivated and see how far you've come.

Read the Research »

Clinical Resource #1
Clinical Resource #2
Clinical Resource #3

Saebo

No Plateau in Sight®

For every step of your recovery journey, there's more support waiting for you. Explore our website to find guides, tips, and tools designed to help you regain strength, improve function, and stay motivated.

From expert advice to inspiring stories from fellow stroke survivors, these resources can empower you to take charge of your rehabilitation and reach your goals.

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NATIONAL CLINICAL GUIDELINE FOR STROKE for the United Kingdom and Ireland

NIH National Library of Medicine National Center for Biotechnology Information

Stroke Foundation

Canadian Stroke Best Practices

Heart&Stroke™

ESO European Stroke Organisation

CLINICAL EVIDENCE:

National Clinical Guideline for Stroke for UK and Ireland

Australian and NZ Clinical Guidelines for Stroke Management

Canadian Stroke Best Practice Recommendations

Rehabilitation Interventions for Upper Limb Function in the First Four Weeks Following Stroke: A Systematic Review and Meta-Analysis of the Evidence

Heart and Stroke Foundation Canada

European Stroke Organisation Guidelines on Motor Rehabilitation