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Training breast cancer survivors: a guide

For rehab specialists and coaches

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● The journey starts here



After Pink

بعد الوردي

"After Pink" is a Breast Cancer Awareness Month campaign for survivors and the people who train them.

Its goal: every survivor finds someone to train her **safely**, and every coach and rehab specialist knows how to do it **by measuring, not guessing.**

October ends..
the work goes on.

A campaign by

HOSSAM ZIDAN





Why this guide?

You will meet a survivor, sooner or later.

Every rehab specialist and coach in Egypt will meet a breast cancer survivor.

 Turn her away out of fear

 Or train her like any other client

 **Both are wrong.**

 **The right answer: exercise is safe... with rules.**





Exercise is safe... with rules



Exercise is **safe** for survivors.

International guidelines agree on this, with proven benefits for fatigue, anxiety, depression, physical function and quality of life.

“Safe” doesn’t mean “no rules.” This guide puts the rules in one place.





Who is this guide for?



Rehab specialists and coaches

In the gym, personal training or online.



Physiotherapists

As a quick shared reference with the team.



Survivors and their families

So they know what a good rehab specialist or coach should ask about.





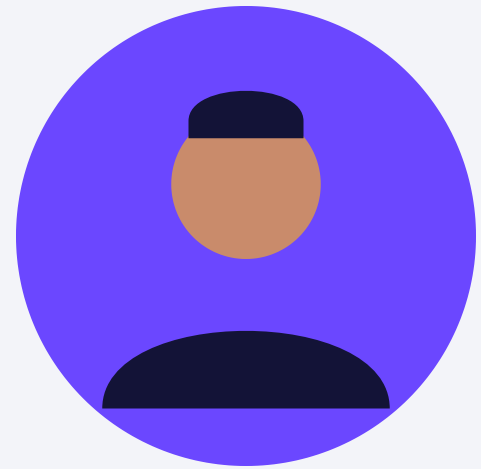
The limits of your role



**Treating
physician**



**Physio-
therapist**



You
rehab specialist & coach

1

You are part of a team.

Not a replacement for the treating physician or the physiotherapist.

2

Don't diagnose, and don't comment on treatment.

Or on medications, and don't give diet or supplement advice.

3

Complex cases need clinical supervision.

Such as metastatic disease, especially in bone, unstable lymphedema, and heart problems. They don't belong in a general gym.





How to use this guide

1

Introduction →

To understand the size of the problem and its effects.

2

The 7 rules in brief →

If you read nothing else, read these well.

3

Screening and the traffic lights →

Before the first session, always.

4

The other pages →

A reference to come back to whenever you need it.

This guide is for professional education.

It doesn't replace specialist training or the advice of the treating medical team.





The problem in numbers

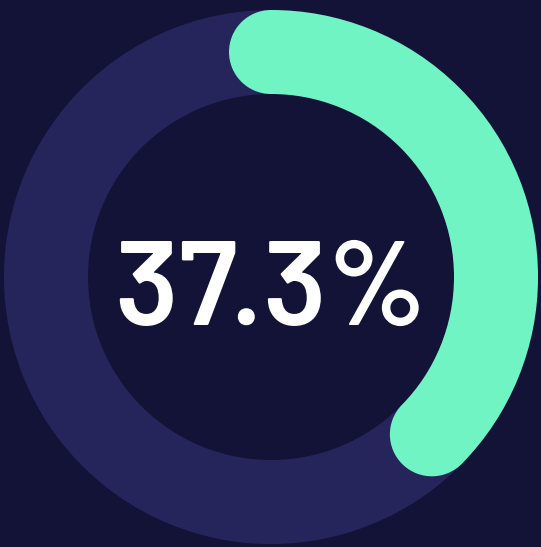
Breast cancer is the most common cancer in women.

Not a rare case a rehab specialist or coach meets once in a lifetime: it's the most common in Egypt and worldwide.

In Egypt, breast cancer is

No. 1

among cancers in women



of all new cancer cases in women

Source: GLOBOCAN 2024 (refs 8 and 9).

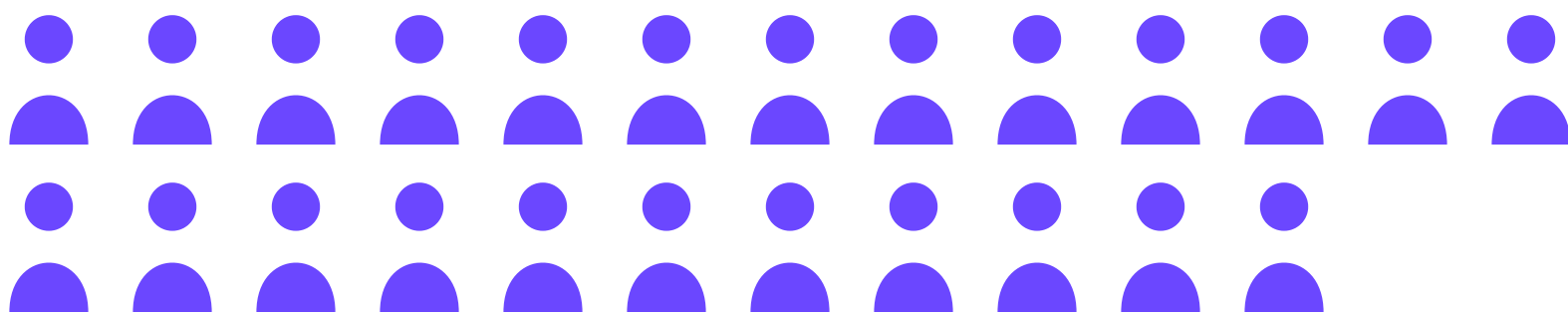




Every day in Egypt...

71

women are diagnosed with breast cancer



26,052

new cases a year (estimated)

Source: GLOBOCAN 2024 (refs 8 and 9).





Who do we serve?

09

72,241

women alive after diagnosis,
in the last 5 years alone.

They need rehab and exercise

The other side of the number

9,717

deaths every year, the
second leading cause of
cancer death among
women.

Source: GLOBOCAN 2024 (refs 8 and 9).





And worldwide

10



11.6%

of new cancer cases are **breast cancer**.

It is the most diagnosed cancer among women worldwide.

Source: GLOBOCAN 2022 (ref 8).



Why does this number matter?

11

1

Better diagnosis and treatment

More women are now living after breast cancer.

2

End of treatment

doesn't mean the journey is over.

3

After treatment

Many come out of it with:

Fatigue

Weakness

Shoulder stiffness

Fear of movement

The next stop

This is where rehab comes in.





More than just a disease

Treatment saves lives, but it leaves effects.

Understanding them is the first step to good rehab.

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1 in 4

survivors suffer **severe fatigue** after treatment ends.



1 in 5

or more develop **lymphedema** in the arm.

The risk rises about **4 times** after axillary lymph node removal.

Sources: fatigue (ref 11), lymphedema (ref 10).





Shoulder first

13



Reduced range and strength, pain, and difficulty with daily activities, **especially after axillary lymph node removal.**

Add to that:

Loss of muscle mass and fitness

Peripheral neuropathy

Joint pain

Reduced bone density

Joint pain and reduced bone density occur with some hormone therapies. (ref 13)





Psychological effects

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Global rate of depression among women affected by breast cancer

It is **highest in the Eastern Mediterranean region**, and in middle-income countries it is double that of high-income countries.

Behind the numbers

Anxiety

Fear of recurrence

Changed body image

Loss of trust in the body

Source: (ref 12).





Daily life is affected too

15



Difficulty returning to work, or cutting hours, due to fatigue and arm weakness.



Shifting roles within the family, and difficulty with housework and childcare.



Social withdrawal, and the financial burden of treatment and follow-up.



Advice from those around her to get “**complete rest**”, which adds inactivity instead of protecting her.

Social effects are described without figures.



Our role

Our role in rehab

Exercise is part of care.

Not an “extra activity” after treatment ends.

International research shows **most survivors don't do regular physical activity.** (ref 4)

That gap is where we work.



Rehab all along the journey

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Before surgery and treatment

Initial assessment, baseline measurements of shoulder, arm and fitness, and building a physical reserve.

During treatment

Maintaining strength and fitness and easing fatigue, with intensity flexed around treatment days.

After treatment

Restoring shoulder range and strength, monitoring the arm, and a gradual return to work and life.

Long term

Lifelong regular activity, protecting bones and heart, and a return to sport for those who want it.





A 3-step model



01 Assess

The doctor or specialist asks about physical activity and decides what she needs.



02 Advise

A clear recommendation: "Avoid inactivity; movement is part of treatment."



03 Refer

To community exercise for simple cases.

Or to specialized rehab for harder cases.

Model proposed in (ref. 4).



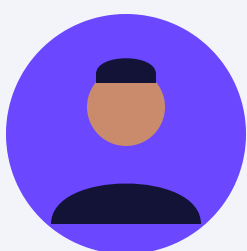
What is each person's role?



Physiotherapist

Assesses and designs for complex cases.

Right after surgery, lymphedema, and shoulder restrictions.
Decides when the client moves to community training.



Rehab specialist & coach

A regular, safe, progressive program.

For stable cases with medical clearance, with daily monitoring and immediate referral at any red light.

This guide's goal

Everyone knows their limits and tools.

So no one turns a survivor away out of fear, no one trains her without rules, and everyone works as one team around her.





The bottom line in 7 rules

If these are the only pages you read, read them carefully.

1

The doctor's approval first

Before the program, and mandatory during treatment, after recent surgery, or with lymphedema.

2

Measure before you train

Shoulder range of motion and arm circumference on both sides before the first session. Without measuring, you won't know if something changed.

3

No inactivity, ever

The first international recommendation. On the worst days, an easy 10-minute walk beats nothing.

4

Strength isn't off-limits

Upper-body resistance training is safe when it starts light and progresses gradually, even with stable lymphedema.





The bottom line in 7 rules

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5

Progress slower than usual

Increase only one variable, by the smallest possible step, after two sessions with no change in the arm.

6

Ask every session

**"How does your arm feel?
And your fatigue today, out of 10?"**

Two questions that protect you and her.

7

Know when to stop and refer

The traffic lights (pages 33 to 35) are not optional. When in doubt, stop and refer her to the doctor.



Summary • The key message

For years, survivors were told:

“Don't lift anything heavy.”



**The evidence says the opposite:
progressive strength training is safe
and beneficial.**

Your role is to be the rehab specialist and coach who knows **how**, not the one who forbids or takes reckless risks.





Treatment and its effects

You don't need to understand medicine, but you must know what each treatment means in the gym.

● Surgery

What might you notice?

Shoulder stiffness and reduced range, tightness in the scar and chest, and a higher lymphedema risk if axillary lymph nodes were removed.

What do you do?

Range-of-motion exercises after the surgeon's clearance, no loading on the affected side before clearance, and measure range on both sides.

● Chemotherapy

What might you notice?

Fatigue, anemia, weakened immunity, numbness in the hands and feet (neuropathy), nausea.

What do you do?

Flexible intensity based on the cycle days, clean equipment, balance exercises if there's numbness, and daily adjustments without blame.



Treatment and its effects (cont.)

• Radiotherapy

What might you notice?

Fatigue that builds over the weeks, skin irritation at the treated area, and shoulder and chest stiffness.

What do you do?

Maintain shoulder range, avoid friction and pressure on the treated skin, and cut volume as fatigue builds.

• Hormone therapy

What might you notice?

Some types are linked to joint pain and reduced bone density, and it continues for years.

What do you do?

Regular strength training, and modify exercises that hurt the joints. Ask about a bone density scan before jumping and heavy loads.



Treatment and its effects (cont.)

● Targeted therapy

What might you notice?

Some drugs can affect heart function.

What do you do?

Ask whether there's cardiac follow-up, and watch for shortness of breath, swelling, and unusual fatigue.

● Port / catheter

What might you notice?

A device under the skin, usually in the upper chest.

What do you do?

Avoid direct pressure on it, and straps or weights that rest on it.

Practical rule

Ask her: **“Which treatments have you finished, and which are still ongoing?”** Write the answer in her file. This information changes the whole program.



What does the evidence say?



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Safe

International consensus (ref. 1)

The recommendation for every survivor: “Avoid inactivity”.

Exercise and testing are generally safe, with enough evidence that they improve anxiety, depression, fatigue, physical function, and quality of life.

During treatment

ASCO guidelines (ref. 2)

Exercise is recommended during active treatment.

Oncologists should recommend aerobic and resistance exercise to improve fitness, strength, and fatigue.





The trials that changed practice

The first PAL trial (ref. 5) 141 survivors

All had stable lymphedema. Progressive weight training twice a week for a year: **swelling did not increase, and strength did.**

Lymphedema flare-ups



The second PAL trial (ref. 6) 154 survivors

No lymphedema, but at risk: progressive weight training **did not increase its onset** compared with those who did not exercise.





What does newer research say?

2025

Umbrella review

Exercise improves strength and reduces disability.

Strong evidence for better upper- and lower-body strength, and less upper-limb disability, in those at risk of or living with lymphedema.

2026

Systematic review

Resistance training is “likely safe”.

For those at risk of lymphedema, but its role in preventing lymphedema is still unproven.

(refs. 7 and 14)



Evidence

Don't promise what the evidence hasn't proven

Don't tell your client that exercise will prevent:

 **Lymphedema**

 **Cancer recurrence**

Say only what the evidence has proven:

 **It's safe**

 **It improves
strength**

 **It eases
fatigue**

 **It improves
quality of life**





Step one

Before the first session: screening

10 minutes of questions that save you months of problems.

**Which treatments are finished, and which are ongoing?
When was your last surgery?**

Why? It sets the program phase and the limits.

Were lymph nodes removed from under the arm? On which side?

Why? It sets her lymphedema risk and which arm to monitor.

Do you have lymphedema? Do you wear a compression sleeve?

Why? It sets starting loads and sleeve use during training.

Any numbness in your feet or hands?

Why? Fall risk, and adapting balance and grip exercises.





Screening questions (continued)

Has your doctor mentioned any heart or bone problem?

Why? She may need clinical supervision instead of the gym.

Do you have a port or a catheter?

Why? So we avoid putting pressure on it.

What is your usual fatigue, from 0 to 10?

Why? A baseline to track the coming days against.

What is your goal from training?

Why? A good program starts from her goal, not your fear.



Record the answers in the client's file.



When is the doctor's approval mandatory?



01

During chemotherapy, radiotherapy or targeted therapy.

02

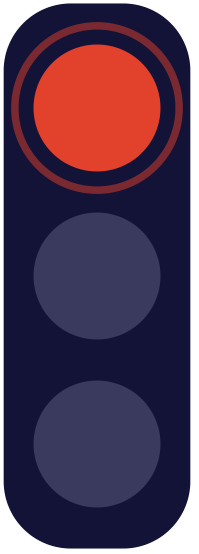
The first weeks after any surgery, until the surgeon clears arm movement.

03

Lymphedema, neuropathy, a heart condition, or metastatic disease.

Our suggested policy: ask everyone for approval. One note from the doctor protects you and your client.





No training today

Stop and refer her to the doctor

- Chest pain, shortness of breath at rest, dizziness or fainting.
- Fever, or signs of infection.
- Redness, warmth or pain in the arm or chest: possible inflammation that needs the doctor **the same day**.
- Sudden swelling or pain in one leg.
- New, severe bone pain, especially at night or getting worse.
- Severe vomiting or diarrhea with signs of dehydration.
- A sudden change in balance, vision or speech.

Review the traffic lights with every client at every session. Print them and hang them in the gym.



Want a printable A4 copy? Send the word “LIGHTS” on WhatsApp

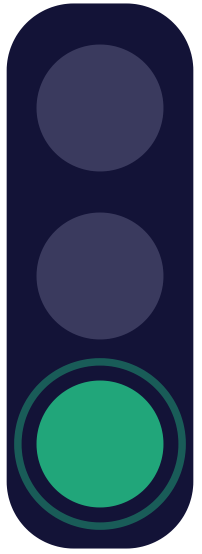




Modify the program

Lower the intensity and volume

- More fatigue than usual, or the few days after a chemotherapy dose.
- Mild heaviness or tightness in the arm after the last session: **go back to the previous level.**
- Numbness in the feet: supported exercises, and balance work next to a wall.
- Known anemia: lower intensity and longer rest, as her doctor advises.



Carry on

The program as planned

- ✓ Stable symptoms
- ✓ No change in the arm
- ✓ Fatigue within her usual range, or easing with movement

35

When in doubt, stop.

You lose nothing by postponing a session,
and you could lose a lot by ignoring a sign.





Assessment

Initial assessment

Simple tests, no lab needed, that give you a baseline to compare against every month.



Shoulder range of motion

Forward raise, side raise and external rotation, on both sides.

To track stiffness after surgery and radiotherapy.



Arm circumference

Tape measure at fixed, recorded points (e.g., 10 cm above and below the elbow crease), on both sides.

To catch any early change that needs referral.



Muscle strength

Portable strength gauge (Hand-held Dynamometer), on both sides.

To compare both sides and track progress every month.



Initial assessment (cont.)



Leg strength

30-second chair sit-to-stand.

Functional strength tied to daily activities.



Aerobic fitness

6-minute walk test, or a fixed walking distance or time.

To set the starting point for aerobic exercise.



Balance

Single-leg stance next to a wall (in seconds).

Important with neuropathy and fall risk.



Fatigue

A 0–10 scale at the start of every session.

To adjust the session day by day.

Don't test one-rep max (1RM) at the start.

Estimate load from comfortable reps, and teach her the 0–10 effort scale from the first session.

Repeat the measurements **every 4 to 6 weeks** and record them. Visible progress is one of the strongest adherence tools.





Exercise prescription



Aerobic

- Frequency** 3 times a week
- Intensity** Moderate: 4 to 6 out of 10, or the talk test
- Duration** 30 minutes, aiming for 150 minutes a week
- Type** Brisk walking, cycling, water exercise once wounds have healed



Resistance

- Frequency** 2 to 3 times a week
- Intensity** Moderate: 2 sets of 8 to 15 reps
- Focus** Major muscle groups, whole body
- Type** Free weights, machines, resistance bands, bodyweight



Flexibility

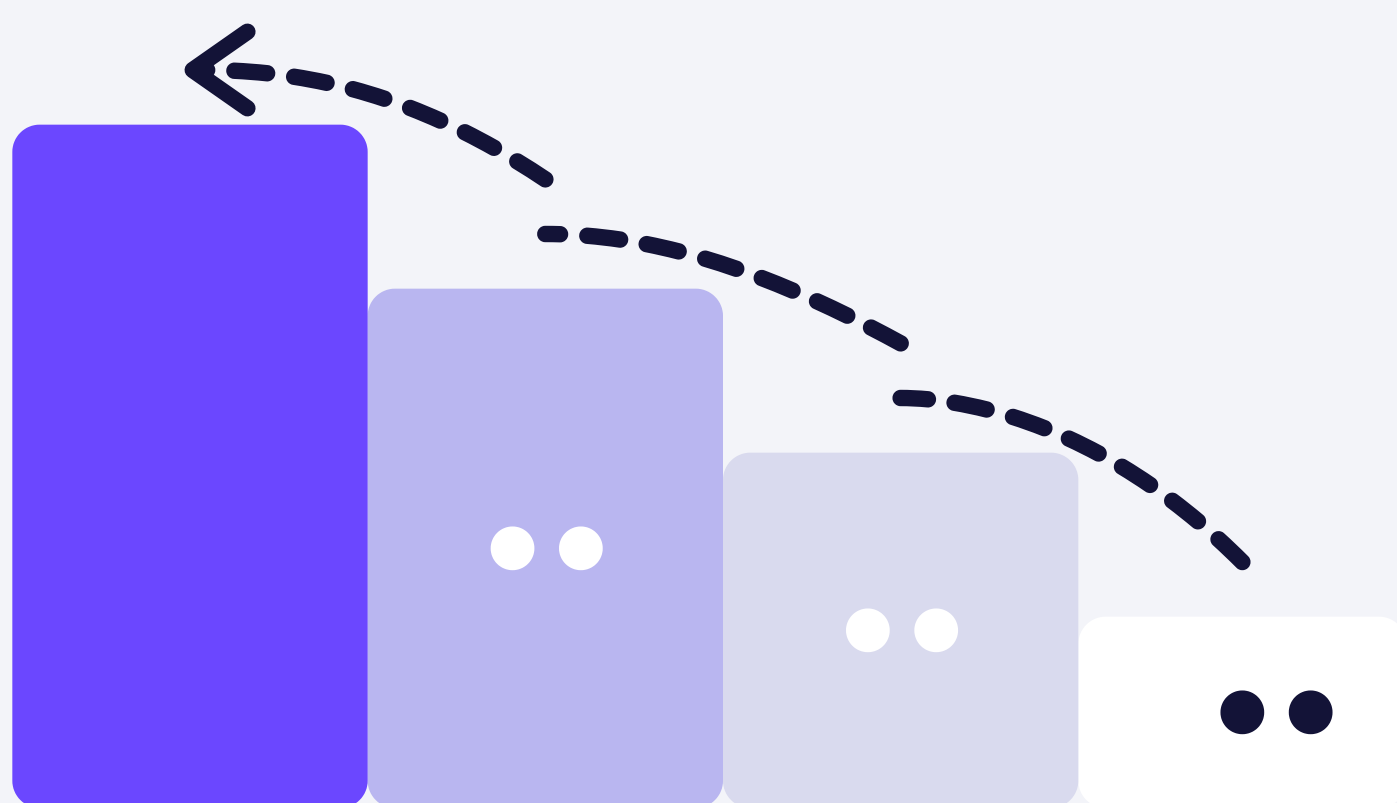
- Frequency** Regularly, and daily in the first months after surgery
- Intensity** To a comfortable stretch, without pain
- Focus** Shoulder and chest range is the priority
- Type** Active range-of-motion exercises and stretches

This dose is a target to reach gradually. Based on the international consensus and the COSA position statement (refs 1 and 3). Add balance work if neuropathy is present.





“Two sessions with no change”



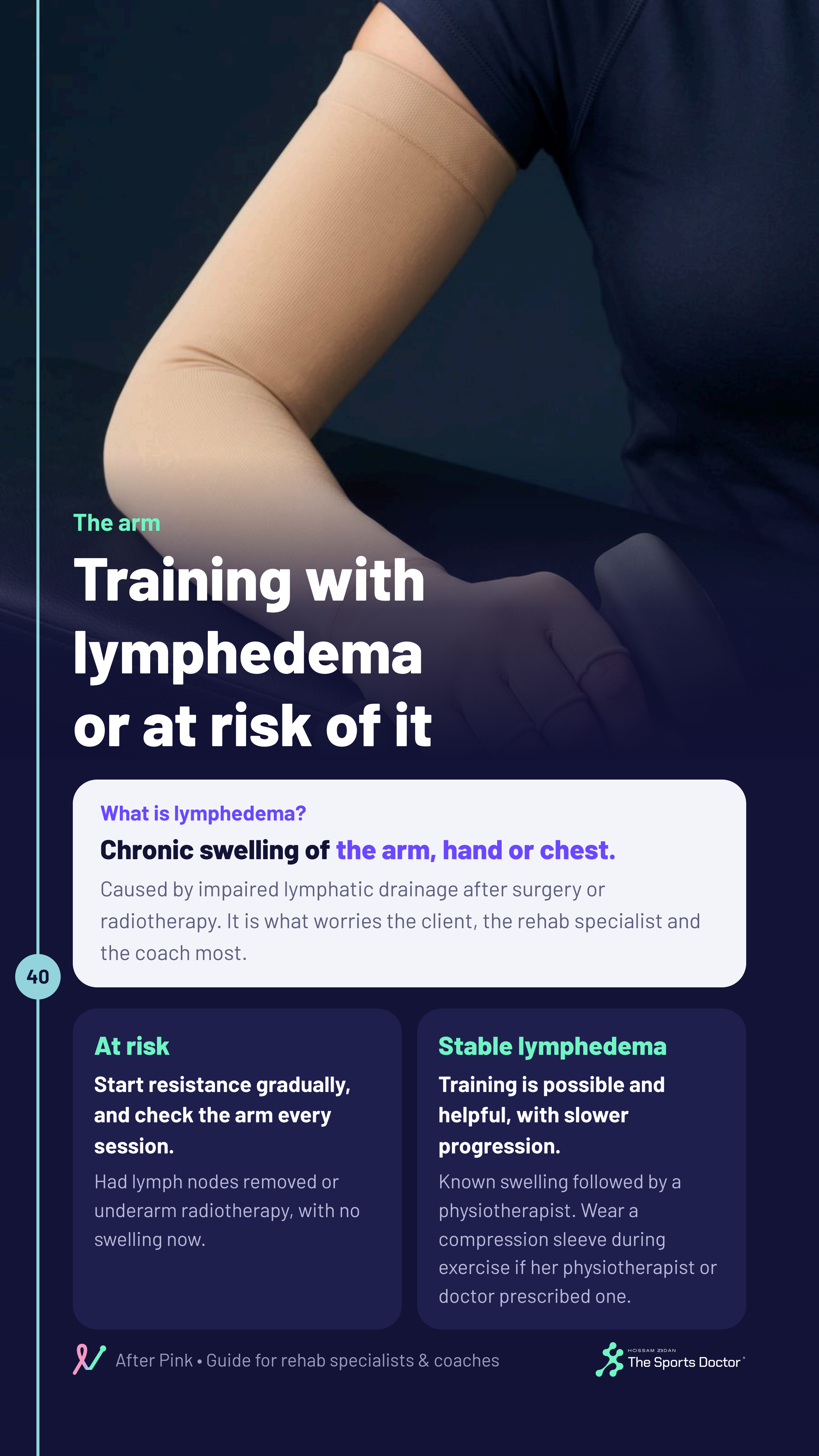
Start light, and increase **one variable only.**

Start with no weight or the lightest resistance. If the client completes the exercise two sessions in a row with no change in the arm, add the smallest increment (two reps, or the lightest plate).

Heaviness, swelling or tightness? **Drop back to the previous level.**

Lasting over a week or getting worse? **Refer her.**

A practical rule we use in the lab, inspired by the slow progression in the PAL trials. After a break of two weeks or more, drop back a level.



The arm

Training with lymphedema or at risk of it

What is lymphedema?

Chronic swelling of the arm, hand or chest.

Caused by impaired lymphatic drainage after surgery or radiotherapy. It is what worries the client, the rehab specialist and the coach most.

At risk

Start resistance gradually, and check the arm every session.

Had lymph nodes removed or underarm radiotherapy, with no swelling now.

Stable lymphedema

Training is possible and helpful, with slower progression.

Known swelling followed by a physiotherapist. Wear a compression sleeve during exercise if her physiotherapist or doctor prescribed one.





Signs to watch

The client watches for them, and so do you.



A ring, watch or sleeve feels tighter than usual.



Heaviness or fullness in the arm or hand.



Arm circumference up compared with the baseline measurement.



Redness or warmth: **a red light that needs the doctor right away.**



The arm

In the gym: do and avoid

✓ Do

- Warm up with shoulder range-of-motion work before loading.
- Enough rest between sets.
- Ask about the arm after every upper-body exercise.
- Lower body and trunk: hardly any restrictions.

✗ Avoid

- Big jumps in weight or volume.
- Reps to muscle failure early on.
- Straps and gear that compress the at-risk arm.
- Keeping the arm completely still “just in case.”



The program by treatment phase

The same client needs a different program in each phase. Flexibility is part of the plan.

Right after surgery

Priority: light walking and shoulder range-of-motion exercises, as the medical team instructs.

No loading on the affected side until the surgeon allows it. Respect drains and wounds.

During chemotherapy

Priority: maintaining fitness and strength and easing fatigue, not new records.

Intensity shifts with the days of the treatment cycle. Strict equipment hygiene, and avoid crowds when immunity is low, per her doctor.

During radiotherapy

Priority: maintaining shoulder and chest range, and keeping up aerobic activity.

Fatigue builds over the weeks, so reduce volume gradually. Protect treated skin from friction.





The long phases

Hormone therapy (years)

Priority: strength, bone density and a healthy weight.

Modify exercises that hurt the joints. A long phase that suits regular programs.

After treatment ends

Priority: a gradual return to full goals, even sport goals.

Many want to get back to their sport. A good assessment is the way forward, not a ban.

⚠ Metastatic or secondary disease Don't go it alone.

Exercise is still possible and helpful in many cases, but it needs a specialist assessment and a clinically supervised program.

Approach

How do you talk?



Your words can be why she carries on, or why she quits.



Say

“Today we go at your energy level, and that’s part of the plan.”

“How does your arm feel after this exercise?”

“Hard days are normal. What matters is we keep going.”

“That’s an important question. Let’s ask your doctor.”



Avoid

✗ “You’re a warrior, you have to keep going!”
(pressure she doesn’t need)

✗ Any comment on weight, hair or body shape.

✗ “Try this supplement, it boosts immunity.”

✗ “Just rest and don’t tire yourself out.”





7 common mistakes

1 ~~Banning upper-body work entirely~~

- ✓ Slow progression with the “two sessions unchanged” rule

2 ~~Progressing as fast as other clients~~

- ✓ Increase one variable by the smallest step

3 ~~Starting without measuring the arm and shoulder~~

- ✓ Baseline measurement on both sides, then monthly follow-up

4 ~~High-intensity exercise from week one~~

- ✓ Moderate intensity, then gradual build-up





7 common mistakes (cont.)

5 ~~Ignoring day to day variation during chemotherapy~~

- ✓ Ask about fatigue at the start of every session

6 ~~Giving diet and supplement advice~~

- ✓ Refer to a dietitian and the doctor

7 ~~Not documenting~~

- ✓ A file per client: treatment, measurements, symptoms

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Privacy first.

No photos or stories on social media without the client's explicit written permission.





Checklist

Before the first session

- ☐ Treating physician's approval
- ☐ Screening questions documented
- ☐ Shoulder range and arm circumference measured
- ☐ Strength, fitness and balance tests
- ☐ Effort scale explained

Every session

- ☐ Fatigue from 0 to 10
- ☐ Ask about the arm before and after
- ☐ Review the traffic lights
- ☐ Log loads and symptoms
- ☐ Progression decision by the two-session rule



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Disclaimer: This guide is for professional education and does not replace the treating medical team's judgment. First edition, October 2026, a Breast Cancer Awareness Month edition.



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Founder of The Sports Doctor Lab, a human performance engineering lab



Founder of APR Academy, continuing education for sports performance professionals

Research & innovation



Founder of SIAHULAB and inventor of SIA Dyno for measuring muscle strength, funded by the Academy of Scientific Research & Technology

We design and build measurement devices in Cairo, so every athlete's return is decided by measuring, not guessing.



First-author international paper in IJERPH, 2026



Scientific poster: European College of Sport Science congress (ECSS), Lausanne, Switzerland 2026



Member, European College of Sport Science (ECSS)



Scan the code to read the published paper
doi.org/10.3390/ijerph23091106





Have a client who needs a **specialist assessment?**

The lab's Performance Engineers team accepts referrals from rehab specialists, coaches and doctors.



Scan the code to start a WhatsApp chat with the team



Message us on WhatsApp





Share the guide

Send it to any coach or survivor you know.

We've come this far.. the work goes on



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