Cellular
INSTITUTE

PATIENT GUIDE

Considering Therapeutic Plasma Exchange?

10 Things to Know Before TPE

A patient guide to understanding the procedure, preparation, safety, recovery, and what to realistically expect.

ADVANCED REGENERATIVE & LONGEVITY MEDICINE



BEFORE YOU DECIDE

TPE is more than a “detox”

Therapeutic Plasma Exchange removes a prescribed portion of your plasma while returning the cellular components of your blood to your body.

The removed plasma is replaced with a physician-selected fluid — commonly albumin in appropriate patients.

TPE has been used for decades for specific conditions. But it is not a universal treatment, and not every patient will benefit.

Researchers are studying its role in

- Inflammatory and cardiometabolic health
- Biological aging
- Selected immune conditions
- Circulating plasma factors
- Certain investigational longevity protocols

The real question isn't *“Can something be removed from my plasma?”* It's **“Is there a medically meaningful reason to remove it — and can we measure whether it helps me?”**

01 · THE PROCEDURE

Understand what TPE actually does

Blood withdrawn → Plasma separated → Plasma removed → Cells returned → Fluid replaced

It may temporarily reduce

- ✓ Autoantibodies
- ✓ Immune complexes
- ✓ Abnormal proteins
- ✓ Complement components
- ✓ Some circulating inflammatory mediators

What TPE does not do

- × Clean every toxin from your body
- × Sterilize your blood
- × Eliminate all inflammation
- × Reset your immune system
- × Reverse aging

Think of TPE as modifying part of the circulating plasma environment — not completely replacing or "cleaning" the body.

02 · YOUR REASON

Know why you are considering TPE

“What are we trying to change?”

Cardiometabolic inflammation

Metabolic dysfunction with persistently elevated inflammatory markers may be considered for investigational protocols.

Immune-mediated conditions

Certain diseases with circulating autoantibodies or immune complexes have recognized plasma-exchange uses.

“How will we know if it worked?”

Longevity research

Early studies explored biological-age biomarkers in older adults — without showing TPE extends lifespan or prevents disease.

Other investigational uses

Circulating microplastics, post-infectious immune abnormalities and other plasma-related biomarkers.

03 · CANDIDACY

Are you an appropriate candidate?

TPE should not begin with the machine. It should begin with medical evaluation.

A typical outpatient candidate is medically stable, able to give informed consent, has adequate vascular access, and has lab results that support proceeding safely.

Not every patient needs every test — testing should connect to your history and the goal of treatment.

Your evaluation may include

- Medical history
- Current symptoms
- Medications & supplements
- Blood pressure & cardiovascular assessment
- CBC & platelets
- Coagulation studies
- Fibrinogen
- Albumin & total protein
- Calcium & electrolytes
- Kidney function
- Liver function
- Glucose & metabolic markers
- Inflammatory biomarkers, when relevant

04 · TIMING

When TPE should wait

TPE temporarily changes plasma proteins, circulating volume and electrolytes — so some patients need more evaluation, postponement, or hospital-level care instead of an outpatient procedure.

- ⚠ Active infection
- ⚠ Unstable blood pressure
- ⚠ Severe coagulation abnormalities
- ⚠ Significant hypocalcemia
- ⚠ Major heart, kidney, liver or lung decompensation
- ⚠ Fever or sepsis
- ⚠ Significant bleeding
- ⚠ Low fibrinogen
- ⚠ Severe allergy to albumin or circuit components
- ⚠ Inability to tolerate vascular access or volume shifts

Important: TPE never replaces treatment of the underlying condition. It does not substitute for antibiotics, antifungal therapy, metabolic treatment or disease-specific care.

05 · MEDICATIONS

Your medications matter

TPE doesn't only affect unwanted plasma components — it can also change the circulating levels of certain medications and biologic therapies.

Tell your medical team about

- Prescription medications
- Anticoagulants
- Blood pressure medications
- ACE inhibitors
- Biologic medications
- Monoclonal antibodies
- Immunosuppressants
- IVIG
- Supplements
- Recent infusions or injectables

Timing can matter

Your physician may recommend giving some medications *after* TPE rather than before it. Medication review is part of your pre-treatment safety assessment.

Never stop a prescription medication on your own before TPE. Your medical team will give you specific instructions.

06 · TREATMENT DAY

What the treatment day looks like



Before

- ✓ Review vital signs
- ✓ Review laboratory results
- ✓ Confirm medications
- ✓ Evaluate hydration
- ✓ Establish venous access
- ✓ Explain the procedure again
- ✓ Review any changes since your evaluation

During

Blood travels through a specialized apheresis system that separates plasma from cellular components.

Your blood cells are returned to your circulation while the prescribed plasma volume is replaced with the selected fluid.

Monitored throughout

- Blood pressure
- Heart rate
- Symptoms
- Vascular access
- Fluid balance
- Reactions to citrate or replacement fluid

07 · SIDE EFFECTS

Understand the possible side effects

Most patients selected for outpatient TPE are medically stable — but TPE is still a medical procedure. Possible reactions include:

- Feeling cold
- Fatigue
- Lightheadedness
- Temporary blood-pressure changes
- Tingling around lips or fingers
- Muscle cramping
- Nausea
- Bruising or discomfort at the IV site
- Reactions to replacement fluids
- Temporary calcium changes
- Temporary changes in clotting proteins

Why calcium is monitored

The citrate anticoagulant used during apheresis can temporarily lower circulating calcium — so calcium, symptoms and vital signs are watched closely.

Serious complications are uncommon

They remain possible, so trained staff, emergency equipment and a defined escalation pathway should always be available.

08 · TREATMENT PLAN

One session is not a complete plan

There is no universal number of sessions. Frequency depends on:

- ✓ Why TPE is being performed
- ✓ Your medical condition
- ✓ Laboratory results
- ✓ Physician assessment
- ✓ Response to previous sessions
- ✓ Safety and recovery
- ✓ The clinical or research protocol

More treatment does not automatically mean better treatment.

A well-designed protocol answers

What are we measuring before treatment?

When will we measure it again?

What would make us continue?

What would make us stop?

09 · EXPECTATIONS

What TPE can and cannot promise

What TPE may do

Depending on the clinical situation, it may temporarily:

- ✓ Reduce selected circulating plasma components
- ✓ Reduce certain autoantibodies or immune complexes
- ✓ Modify the circulating plasma environment
- ✓ Change measurable biomarkers
- ✓ Serve as part of a broader supervised protocol

What TPE cannot currently promise

- × Elimination of every toxin
- × Elimination of all inflammation
- × Reversal of aging
- × Guaranteed improvement in energy or cognition
- × Guaranteed disease prevention
- × Guaranteed improvement from stem cell therapy

Clinical guidance favors language like "may temporarily reduce selected circulating factors" — not "eliminates all inflammation" or "reverses aging."

10 · COMBINED PROTOCOLS

Combining TPE with stem cells? Ask why

There is scientific interest in whether the circulating biological environment influences regenerative signaling and cellular therapies.

But TPE before stem cell therapy remains investigational.

Current evidence does not show that TPE before an infusion improves

- ⚠ Cell survival
- ⚠ Cell homing
- ⚠ Engraftment
- ⚠ Therapeutic effectiveness
- ⚠ Clinical outcomes

How we explain it: TPE may be considered as a way to temporarily modify selected components of the plasma environment before another therapy. The biological rationale is being studied, but it has not been proven to improve the effectiveness of cellular therapies.

YOUR TPE CHECKLIST

Before saying yes to TPE

My reason for treatment

- [ ] Do I understand why TPE is being recommended for me?
- [ ] Is there a specific medical or biological objective?
- [ ] Do I know whether my use is established or investigational?

My medical evaluation

- [ ] Have my medications been reviewed?
- [ ] Have my relevant lab tests been reviewed?
- [ ] Has active infection been ruled out?
- [ ] Has my cardiovascular and vascular-access risk been considered?

My treatment plan

- [ ] Do I know what replacement fluid will be used?
- [ ] Do I know roughly how long the procedure takes?
- [ ] Do I understand the potential side effects?
- [ ] Do I know how many treatments are being considered?

YOUR TPE CHECKLIST

Before saying yes to TPE (continued)

My outcomes

- ☐ Do we know which biomarkers or symptoms we are following?
- ☐ Do I know when they will be reassessed?
- ☐ Do I understand what would count as a meaningful response?

My expectations

- ☐ Do I understand what TPE can realistically do?
- ☐ Do I understand what remains investigational?



Bring this checklist to your consultation. Our medical team will walk through every question with you.

THE RIGHT QUESTION

An informed decision is part of the treatment.

Not *"Is TPE good?"* — but **"Is TPE appropriate for me, for a clearly defined reason, with a plan to evaluate the outcome?"**



OUR APPROACH

How we decide on TPE



At Cellular Institute, including TPE in a patient's care is based on:

01
Medical evaluation

02
Individual biology

03
Laboratory findings

04
Clinical objectives

05
Safety

06
Measurable follow-up

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Considering TPE?

Speak with our medical team to determine whether therapeutic plasma exchange may be appropriate for your individual health profile.

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