



4 Ways to Help Prevent Costly Biodex Repairs and Reduce Downtime

Biodex systems are advanced pieces of rehabilitation equipment. When maintained and used properly, they can provide years of reliable service. But some of the most expensive repairs I have seen did not start with major failures. They started with small issues, repeated user habits, or service mistakes that seemed minor at the time.

This report covers four examples that can help facilities avoid unnecessary damage, reduce downtime, and protect their investment.

1. Do Not Ignore a Loose Dyna Signal Cable Strain Relief

Often ignored, a loose Dyna signal cable strain relief at bottom of dynamometer gimbal post may not look serious at first, especially if the system still appears to be operating normally. But this is one of those small issues that can lead to very expensive damage if it is ignored.

If the strain relief is loose, the cable can shift out of its proper position as the dynamometer is raised and lowered. Over time, that can allow excess slack to be pulled into the moving internal tube assembly, where the cable can be pinched, cut, or otherwise damaged.

Once that happens, the problem may not stop with the cable itself. Damage can lead to electrical shorting and board failure, turning a relatively small issue into a repair costing thousands of dollars.

What to do

If the Dyna signal cable strain relief is loose or does not seem secure, have it corrected before continued movement causes internal cable damage.

2. Do Not Overtighten the Tilt or Rotation Lock Knobs

This is a very common mistake.

Many users think tightening the tilt lock or rotation lock knob harder will make the dynamometer hold better. But these locks are not designed to hold by friction.

A better way to think of it is this: a small piece of gear locks into another gear. It is the teeth engaging that hold the position, not extra force on the knob.

That means overtightening does not improve holding power. It only puts unnecessary stress on the locking assembly. Over time, repeated overtightening can break the weld on the mechanism. When that happens, the assembly is not repairable and must be replaced.

If the tilt or rotation locks break, the dynamometer tilt or rotation will be stuck in that position until the assembly is replaced. Either way, the result is downtime and loss of normal positioning.

What to do

Train staff to secure the tilt and rotation locks properly, but not force them. They lock by engaging teeth, not by being overtightened.

3. Use the Trolley Release Pedals Correctly

Another preventable cause of damage is improper use of the trolley release pedals for the dynamometer and seat.

The best practice is to place the full foot across the pedal, or at least press as close to the center of the pedal as possible. Pressing on the edge or at either end of the pedal can twist the mechanism and apply torque in a way it was not designed to handle.

One bad press may not cause failure. But repeated use like that can wear the mechanism down and eventually break it.

Because the damage happens gradually, most facilities do not realize the problem is being caused by how the pedal is being used.

What to do

Train therapists and staff to use the full pedal surface or press near the center. That simple habit can help prevent unnecessary wear and avoidable repairs.

4. Do Not Let Inexperienced Technicians Learn on Your Biodex System

One of the most expensive mistakes a facility can make is allowing a technician who is not truly familiar with Biodex systems to work on the equipment.

Biodex equipment is not basic gym equipment, and it is not the kind of system that should be learned “on the job” while standing in front of your machine. It is advanced physical therapy equipment that requires the right knowledge, training, and experience.

I have been called in to clean up situations where an inexperienced technician disassembled major portions of the system for a problem that could have been repaired or corrected much more simply by someone who understood the equipment. What should have been a straightforward repair became more downtime, more labor, and more cost.

What to do

Make sure anyone servicing your Biodex system has real experience with Biodex equipment specifically. The wrong technician can turn a manageable issue into a much bigger repair.

Final Thought

Most costly Biodex repairs do not begin as costly problems.

They often begin as a small issue that was overlooked, a daily habit that slowly caused damage, or a service decision that created more problems than it solved.

Paying attention to these four areas can help your facility:

- reduce avoidable repairs
- minimize downtime
- protect equipment life
- avoid unnecessary service expense

If your facility would like help evaluating a Biodex system, addressing a concern before it becomes a larger repair, or scheduling preventive service, Precision MedTech Services is here to help.