All businesses need their shipments to go smoothly — nothing damaged, lost or late, and no last-minute surprises. And this is especially true in the healthcare sector, where a shipping mistake can cost not just dollars, but the health of a patient.

Medical technology has made stunning advances in the last three years, and yet many medical and life-sciences products are still being transported the same way they were 30 years ago, with all of the associated pitfalls.

There is no one-size-fits-all solution

“Medical products” are as varied as modern medicine itself. To a pharmaceutical company, a critical product could be high-value painkillers or carefully refrigerated insulin. For a clinic or lab, it might be human specimens — blood, saliva, urine or tissue, for example — or even animal specimens sent to or from a veterinary clinic. Surgeons, on the other hand, depend on the successful and timely delivery of sealed surgical instrument kits and sterilized tools to ensure they have what they need for every procedure. Whatever your niche, you face unique challenges.

Consider these facts:

• Last year, the estimated loss value of pharmaceuticals stolen in U.S. transport was well over $2.5 million. If you’re in the pharmaceutical sector, your concerns don’t end at theft; you have to think about spoilage or compromised items and ensuring regulatory compliance with FDA and DEA standards.

• It’s crucial that clinical samples arrive on time. And since sample kits must often travel from lab to patient to lab again, you need access to reliable returns options. At the same time, you’re trying to avoid delays caused by unplanned rerouting of shipments, and to comply with both FDA standards and hazardous materials regulations.

• Surgical kits and consumables — those supplies that can only be used once, like bandages or hip replacements — must absolutely arrive on time. Otherwise, lifesaving surgeries could be delayed. When shipping surgical products, you can face delays caused by unplanned rerouting of shipments, as well as rigorous FDA standards and hazmat regulations. You also need to manage a complex inventory, efficiently balancing large numbers of incoming and outgoing items.
Luckily, as medical technology leaps ahead, transportation technology is right there with it. Shipping medical products can be hassle-free as long as you’re aware of these key considerations.

1. **Anticipate: What might affect your item in transport?**

Some shipping providers will hand off their cargo to another carrier in order to make a delivery in an area where they aren’t well-connected. This is called inconsistent custodial control, and it can be a real problem; with every added link in the chain, the potential for miscommunication increases and accountability goes down.

Another major consideration is temperature control. Ask yourself: Will my items require refrigeration? Will I need to keep it frozen, room-temperature or warm? Think about the specifics your particular product requires.

When you’re shipping pharmaceuticals, security of narcotics and prescription drugs is the primary factor. With clinical samples and surgery kits, it’s the product’s sensitivity to light, humidity or other extremes, and meeting strict regulatory compliance.

You’ll also need a contingency plan to handle unplanned rerouting of shipments, which can delay delivery and compromise your products’ integrity.

2. **Review your options**

Learn what specialized services your shipping carrier may offer just for healthcare and life-sciences shipments, and carefully compare services to understand exactly what you’re getting. There are a number of transportation and shipping options out there, and not all of them are created equal.

**Temperature Control**

Dry ice is a common choice when shipping temperature-sensitive materials. However, you may want to consider newer technologies, like CSafe compressor containers or liquid-nitrogen dewars, which eliminate the need for bothersome re-icing mid-route.

The liquid-nitrogen dewar is available as a FedEx® packaging option and can maintain a temperature of -150 C for up to 10 days. It’s safe and eco-friendly; once its job is done, the nitrogen harmlessly evaporates back into the atmosphere. It eliminates the need for insulated boxes and, because liquid nitrogen isn’t a hazardous substance, you don’t need hazmat training to use it. Combine this with elimination of re-icing stops and it adds up to real time and cost savings for you and your customer.

Some perishable shipments may need to be kept at room temperature — between 15 and 30 C — during transport. For that, FedEx uses thermal blankets to stabilize temperature and protect products from weather fluctuations, from pickup through delivery. Learn more about the specialty packaging options available with FedEx.

**Security**

The most commonly reported sites of cargo theft last year were truck stops, followed by warehouses or distribution centers, parking lots, and carrier or terminal lots. If you’re transporting especially sensitive cargo, such as antidepressants or expensive multiple sclerosis drugs, the traditional warehouse with 24-hour security monitoring might not be enough.

FedEx Custom Critical reduces the potential for theft associated with multiple stops in transit: Trucks must be completely fueled at the start and will not stop until they reach the destination or are within 200 miles of the shipper. Every vehicle is protected with a padlock and a numbered metal seal, and drivers are required to closely monitor cargo at all times. FedEx Custom Critical also uses GPS technology to place virtual boundaries, or geofences, around high-cargo-theft areas. If the vehicle enters that region, it triggers an alert and the driver is notified.
Monitoring

In this information-driven age, it’s natural to want to follow your shipment’s progress. So make sure you have access to accurate, detailed tracking and temperature-monitoring services.

FedEx offers two specialized, contract-only monitoring services to keep you informed of your products’ status every step of the way. FedEx Priority Alert® is an inside-the-box, item-level monitoring option that provides a high degree of visibility and delivery compliance. A dedicated specialist manages your shipment’s activities and works directly with you to ensure your products arrive safely, on time and uncompromised. SenseAware® is a revolutionary information service that produces near-real-time updates on your shipment’s location, temperature, light exposure, relative humidity and barometric pressure. With these services, you can catch and prevent shipping excursions before your products’ integrity is at risk.

Packaging

Proper packaging can also mean the difference between a successful shipment and a catastrophe. For nonfragile items, a sturdy outer box packed with crumpled newspaper will be sufficient; breakable or delicate objects could require a more heavily cushioned box-within-a-box setup; and anything perishable should be surrounded with refrigerants and placed inside of an insulated foam container.

Shipping liquids creates an additional degree of consideration that can vary by shipping carrier. For example, when you send liquid clinical samples via FedEx Express® services, you must use four layers of packaging, as shown in the diagram below. FedEx Express also prohibits the use of foam boxes, plastic bags and paper envelopes as an outer packaging layer. You’ll want to familiarize yourself with your carrier’s requirements, as well as any government requirements for packaging specific products.

See these resources for guidance on packaging your healthcare shipments for safe transport:

- FedEx guide to packing clinical samples
- FedEx guide to packing perishables

Want to know how your clinical packaging stacks up? FedEx offers free package evaluation; submit a sample and we’ll give you feedback to help improve its integrity. Check out our Packaging Services Guide.

3. Be sure your shipping provider offers everything you need.

Before contacting them, sit down and define your needs. Sketch out a list of questions to ensure they’ll be met.

For example, if you’re shipping frozen tissue samples, you’ll want to know about the shipping provider’s temperature-monitoring methods and the level of training required for its employees.
For costly medications, be prepared to ask the provider about their available security technology, contingency plans in the event of mechanical failure, “safe parking” environments for cargo transfer and safety ratings.

**Need to ship overseas?** Make sure the company has an extensive global distribution network so it won’t pass your package over to third-party carriers. With FedEx, your shipments will always stay within the FedEx® network — from start to finish, we’re the only ones who handle your shipment, and we know where it is and how it’s being handled.

Our international trade experience and regulatory compliance services mean we’re also equipped to ensure smooth, compliant transactions across continents. FedEx Trade Networks puts all the pieces together with a global network built on freight forwarding expertise and localized service delivery — connecting your business, your suppliers and your customers in the most efficient way possible. Learn more about FedEx Trade Networks.

In the air, we have the largest team of Boeing 777 Freighters run by any U.S.-based cargo carrier. Debuted in 2009, the Boeing 777 Freighter is the largest and longest-range twin engine carrier in the world. The extra-long flight range and greater fuel capacity mean fewer stops and faster trips — and faster, more direct deliveries. Plus, the finely tuned temperature control throughout the aircraft ensures that your shipments will arrive unspoiled. Learn more about our Boeing 777F and its onboard temperature control.

**The bottom line**

No matter what healthcare products you’re shipping, it’s most important to find a solution that works for you. Choose a carrier that understands the healthcare and life-sciences industry and provides custom solutions to meet your needs.

The world of medical supply transport is a dynamic one, and it’s important to stay informed. FedEx HealthCare Solutions can help you do that. And you can count on our specialized healthcare services to deliver your critical shipments safely, securely and intact.


More info
- FedEx HealthCare Solutions website: [fedex.com/healthcare](http://fedex.com/healthcare)
- Sales assistance by phone: 1.866.504.9745