



**Kinex Medical Company
used AT&T connectivity, expertise,
and business relationships
to improve post-operative patient care**

- **Business needs** - A way to receive near-real-time metrics from a continuous passive-motion medical rehabilitation device that allows patients to safely rehab at home following knee surgery and to achieve equivalent outcomes to physical therapy for a much lower cost
- **Networking solution** - Tablets with AT&T connectivity to allow monitoring of patient progress and to deliver useful information to the treating physicians
- **Business value proposition** - Better patient experience, more precise data to support medical care, equivalent outcomes to outpatient physical therapy, lower costs for the hospital and patients, safer to rehab at home
- **Industry focus** - Medical rehabilitation device manufacturer
- **Size** - 400 employees

About Kinex Medical Company

Kinex Medical is an orthopedic specialty medical equipment company that supplies durable medical devices to patients for in-home rehabilitation following injury or surgery. With 30+ years in the industry, Kinex provides its services across 35 states, actively supporting more than 2,000 doctors and providing treatment services to more than 7,000 patients per month. It has developed an extensive contracting network of more than 300 insurance providers.

The situation

Kinex wanted to update its flagship product, a home rehabilitation platform that includes continuous passive motion to help patients recover after knee surgery. The company wanted to replace its wired controller with a sophisticated tablet that would not only regulate how the machine moves and for how long, but also measure patient progress and communicate the information to physicians.

Solution

AT&T provided connectivity and related expert consultation that helped Kinex launch a 21st century version of its popular rehabilitation device. The connected device provides a better patient experience and delivers more information to their doctors.



Support for home-based rehab

Kinex Medical is an orthopedic specialty medical equipment company that manufactures and distributes products to help people recover at home after surgery or injury. It offers durable medical equipment such as bracing and supports, DVT prophylaxis, cold therapy, electrotherapy devices and more.

Most patients prefer to complete rehab at home rather than in the hospital or an outpatient clinic because it can save them money and lessen their exposure to infections. However, when patients undergo home-based rehabilitation, it is more difficult for surgeons to track their progress and ensure that they are complying with post-surgical instructions.

Kinex wanted to make it easier for doctors to monitor their patients after surgery. Ensuring patients are compliant with their treatment plan is critical to a successful outcome. In addition, physicians want to be able to more closely monitor their patients to lessen the likelihood of adverse reactions like infection, bowel obstruction, or blood clots that could trigger hospital re-admissions.

Connectivity for a groundbreaking device

Paul Jebe, Kinex Director of Information Technology, has seen the lifechanging effects of the company's products. "I don't have a background in physical therapy or medical devices, but I've really enjoyed working for a company that supplies a product I believe in," he said.

"My first couple of years with the company were eye-opening. I went from a guy who was just running IT to someone who really believed in and was proud of the approach, the business model, and the products we supply. They really do work."

One of his first challenges came when the company introduced a continuous passive motion (CPM) device that helps patients recover after a knee replacement. "When we began prototyping this device with ten units, we were with an AT&T competitor," he said.



“It was a small number for a proof of concept, but it was a learning experience for us.”

AT&T expertise and support

Kinex was not satisfied with the solutions and support the competitor provided. “When we started talking with AT&T, it opened a lot of doors for us,” Jebe said. “We initially looked for a cellular modem that would power on only when it needed to securely send data from the CPM device to Kinex or to the patient’s doctor.”

The only device Kinex found was an expensive, custom-built USB stick that required special software and added cost and complexity to the CPM device. “It was an AT&T representative who thought outside the box and brought us a solution that was originally meant for the automotive industry,” he said. The account rep suggested Kinex try an OBD-II device that auto makers use to diagnose automotive problems.

When an issue arose that caused the OBD-II device to stop working, AT&T reached out to the device manufacturer and got the company to write revised firmware for Kinex. “I’m still kind of amazed that they were able to do that,” Jebe said. “So there’s a version of firmware out there for that device that exists in the wild only because Kinex Medical needed it and AT&T went to bat for us.”

A better patient experience

Kinex used the device for many years to connect its CPM devices to the AT&T network. “It was low cost and reliable. It wasn’t hard to support, so it was a perfect fit in a lot of ways,” he said. Eventually, the company decided to replace the solution and support its devices with a tablet equipped with wireless connectivity.

As it made the switch, Kinex also wanted to update the product to make it more powerful, Jebe said.

“We wanted to provide a better experience for the patient and more information for the doctors who are prescribing these products to their patients.” Specifically, Kinex decided to replace the device’s wired hand controller with a tablet that would not only regulate how the machine moves and for how long, but also measure patient progress and communicate it to physicians.

The new KinexCONNECT is controlled by a tablet with mobility connectivity from AT&T. “It uses Bluetooth technology to wirelessly control the CPM device. It’s just a fancy looking version of what we already had, but then you include the benefit of a cellular data connection through AT&T, and suddenly there are things that we can do with this that we couldn’t necessarily do before,” Jebe said.

This includes valuable error reporting, so Jebe’s staff knows immediately if a device has a problem. It also monitors patient success and conveys meaningful progress updates to physicians and healthcare systems.

Documenting patient compliance

The AT&T tablets also enable physicians to customize a video-based rehabilitation program for their patients. “We have a whole library of professionally produced rehabilitation exercise videos that doctors can use,” he said.

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Paul Jebe
Director of Information Technology
Kinex Medical Company

The doctors determine when those videos are suggested to the patient as well so that the usage falls in line with the plan that they have for that patient’s recovery. Instead of going to rehab at a hospital or physical therapy clinic, patients can perform diagnosis-specific exercises in the comfort and safety of their own homes.

The KinexCONNECT system tablet does not require the patient to download software or applications. Because it uses AT&T cellular connectivity, the tablet does not need to access the connectivity in the patient’s home. This means that physicians can prescribe the devices for patients that are not tech savvy and for those without internet connectivity.

Jebe said older versions of the company’s CPM devices had no way to determine if the patients were following the doctor-prescribed rehab schedule. “Before now, we’d rent the device to a patient and the insurance would pay for it, and we’d pick it up 30 days later,” he said. “Now we’re able to actually prove that patient is compliant with what their doctor prescribed.”

The interactive nature of the device may encourage patients to follow their rehab schedule. “We know patients get better outcomes when they engage with the device,” Jebe said. “That’s one of the new core components that we’re able to do with the product.”

A lifeline to consumer grade device manufacturers

Kinex uses a variety of AT&T services across its national footprint, including traditional telephone lines and internet, and mobility products such as mobile phones, tablets, and internet hotspots to support its staff.

Jebe noted that AT&T has been extremely helpful in interfacing with the manufacturers that supply the tablets for its KinexCONNECT devices. “Using consumer-grade tablets as opposed to purpose-built medical-grade devices is significantly more cost-effective,” he said. “AT&T has been our lifeline to consumer grade device manufacturers.”

The interface is necessary because consumer-grade devices change rapidly. A particular model may only be on the market for six to nine months before a new version is introduced. “AT&T helps us stay up to date with the new versions,” he said. “They’re very easy to work with and they supply us with reference units that our software team and engineers can use to field test before we decide to roll out a new device.”

Data supports future directions

KinexCONNECT has been a great success for the company. “We were unsure when we started this whether or not the market would have any interest in a new version of a product that had existed since the 70s, but we’ve seen definite interest,” Jebe said. “We get frequent requests from doctors for new things they’d like to see the product do that will give them even more benefit.”

As healthcare reimbursement models shift from fee for service to value-based care models, the KinexConnect is an ideal product for the total knee patient population. It has proven to get equivalent outcomes to traditional physical therapy while saving everyone significant money. It is also allowing patients to safely rehab at home during the COVID 19 pandemic.

The company is currently working on a new approach for treating shoulder injuries. “And beyond that, we have had a lot of doctors ask even if they could potentially use the tablet connectivity for patients who had a minor surgery and maybe didn’t need a CPM device,” he said. “That’s a much more hard-fought market. There’s plenty of telemedicine devices out there, but we’ll continue to look at those opportunities.”

Kinex officials have always made carefully informed decisions on new and updated products, often using data from AT&T. “It’s all data-centric, but that data doesn’t do us any good if we don’t have access to it,” he said. “The more real-time data we can access, the more proactive we can be with the recovery for these patients. AT&T will continue to be at the core of that.”

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