

# GAME CHANGERS

IN THE LAND OF 10,000 INNOVATIONS, VISIONARIES FROM THE GREATER MSP REGION ARE CHANGING THE WAY SPORTS ARE PLAYED.

## Profile: TheraTec

Whether it's a multi-million dollar star athlete who tore a ligament on live TV or a weekend warrior with back spasms, recovering athletes of any level are often prescribed physical therapy. Professional players have trainers to keep them on track, but for most people, the biggest challenge at this point is simply staying on track.

PROFILE > TheraTec

TYPE > Internet-enabled medical device and software for physical therapy

STORY THEMES > Injury and rehabilitation  
Medical devices and technology  
Sports medicine  
Motion-sensing technology

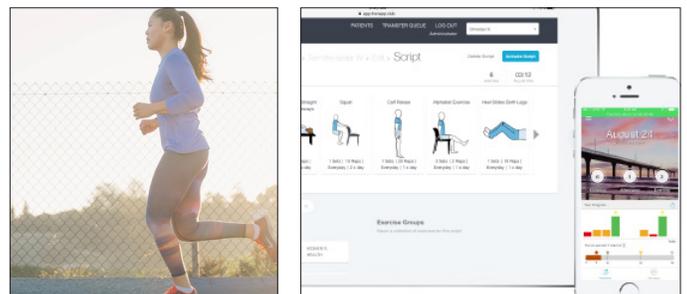
OVERVIEW > Physical therapy is a critical component of injury recovery. Professional athletes have trainers to keep them on track, but for typical patients, follow through is very poor, with only 20 percent of patients starting their therapy, and only 30 percent of those sticking with it. TheraTec has developed a specialized internet-connected platform designed just for physical therapists and their patients to help therapists efficiently monitor and motivate patients, and help patients stay on track and do their therapy correctly. This is associated with better outcomes for the patient – and for physical therapists, who increasingly are paid by insurance companies based on outcomes.

KEY PEOPLE > Tom Waddell, founder and chairman, TheraTec  
Kurt Goos, CEO, TheraTec

KEY QUOTE > *"Your therapist can see how much you're doing, and then alter the protocol remotely. Instead of going into your therapist's office 22 times, maybe you save five times. All of the exercise data is stored, and you can see progress... This tech is coming, and people are asking for it. It's fabulous tech, and we are early in the game."*  
- Tom Waddell

WEBSITE > [theratec.com](http://theratec.com)

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Whether it's a multi-million dollar star athlete who tore a ligament on live TV or a weekend warrior with back spasms, recovering athletes of any level are often prescribed physical therapy. Professional players have trainers to keep them on track, but for most people, the biggest challenge at this point is simply staying on track.

"Most patients don't start their therapy, and only 30 percent of those stick with it," said Tom Waddell, founder and chairman of St. Paul-based TheraTec. Not only is this bad for patients, it's bad for the entire physical therapy segment of the health care industry – more insurance companies are paying based on outcomes, so physical therapists need ways to keep patients on track that are not prohibitively expensive.

TheraTec is an internet-of-things (IoT) platform designed specifically for this need. The company uses a proprietary motion sensing device (unlike those in phones or normal bands, it can sense motion on nine axes and recreate a 3D model of the motion), an online platform that lets therapists check in on patients to make sure they are performing exercises, and an app for patients where they are guided through their exercises and can interact with their therapist.

TheraTec was able to grow and develop in Minnesota because of the region's long history in medical technology – people and companies were around that knew how to design, build and market the product. "The entrepreneurial environment around medical devices, software and applications in Minneapolis-Saint Paul is spectacular," Waddell said. "All of the infrastructure is here" including:

- A work force trained and attracted by the region's large medical technology industry
- A support network of people who understand the quality control, regulatory and intellectual property needs unique to the med-tech space
- A huge health insurance presence, allowing TheraTec to tailor its system to the industry's needs

Waddell also credits the region's medical technology industry association, Medical Alley, as an invaluable resource for medical startups. "If I don't have the resource I need, their network can help," he said. "Our medical device community is the best in the country, and I give a lot of that credit to Medical Alley."

## KEEPING PHYSICAL THERAPY ON TRACK WITH TRACKING

TheraTec's system is designed to improve both the patient and caregiver experience. "Your therapist can see how much you're doing, and then alter the protocol remotely," he said. "Instead of going into your therapist's office 22 times, maybe you save five times. All of the exercise data is stored, and you can see progress charts."

The resulting treatment is more efficient for everyone involved; provides hard data on progress and success to patient, caregiver and when appropriate the insurance company; and helps improve compliance through behavior-changing features. These can include daily reminders and motivating content (such as social motivation from friends and family, or even just seeing their own progress) to help patients keep going.

For many patients, the ability to connect with their therapist more often is empowering and allows more personalized treatment. "Feedback is a huge motivator," Waddell said.

Currently, Waddell said, TheraTec is working with the Institute for Athletic Medicine at Minneapolis-based Fairview Health System on a pilot program, and ramping up funding to get more uptake nationally.

## BEYOND PHYSICAL THERAPY – THE POTENTIAL FOR PERFORMANCE

In the future, TheraTec hopes its system may even have applications in training and performance for athletes – the sensor has the potential to track motions precisely enough to someday offer feedback on form, so that an athlete could use it to perfect a stride or body motion.

"Right now, all that is derived from monitoring videos," said Waddell. "But if you had a hockey player with a 9-axis motion sensor on each skate, you could track the exact motion of every stride. You could point out one or two places for improvement, you can slow it all down. In some cases those systems exist today, but they're clunky."

These performance features are just on the drawing board now, but TheraTec has high hopes. "This tech is coming, and people are asking for it," he said. "It's fabulous tech, and we are early in the game."

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