

# App Enables Sport-Specific Biomechanical Analysis

REVIEWED BY GREG TODD, PT, OCS, CSCS

**A**s a physical therapist for the past 13 years, I've had the opportunity to work with athletes from all levels. Rehab has only been one part of the formula that I've used to get patients back to playing their sport of choice. As therapists, we are responsible for making sure that their body part being treated is strong and flexible enough to return to their particular sport. Even though these things might be accomplished, the mechanics for that particular sport need to be addressed as well. This has been challenging for me in the past, because of the limitations of our facility and not having the proper equipment to identify issues with their mechanics pertaining to the activity.

Recently I found a mobile application, Dartfish Express by Dartfish, which enables you to record movements, create slow-motion playback, and dissect the movement by using various diagrams to emphasize specific aspects, to help return patients to their sport in a safe manner. In my practice, I see quite a few tennis players and runners, so I've been able to use this very effectively.

From the home screen, you're allowed to record the caption video directly from the app or add a video from another source on your

mobile device. Once you've captured the video, the app allows you to play back in a way that completely surpasses the regular capabilities of your mobile device.

Once you double-click on the video capture you want to edit, you're brought to a screen that shows your video and has a play/pause button and jog wheel at the bottom left-hand corner. The jog wheel allows you to slowly move through the different movements the patient has performed in his video. It's very intuitive and simple to use, and allows you to break down the movement in a very effective manner.

As you're using the jog wheel and come across a spot in the movement that you want to comment on or emphasize, the app is very strong in allowing you to take a caption photo of that particular area. At the bottom right-hand corner of the application, there's a camera icon you can tap on and the app will take a still shot of that segment of movement. Once that's done, you're able to comment on the movement or create diagrams of it. The application allows you to use angles, circles to demonstrate joint angles during movements as well as type numbers or letters to emphasize a certain area of movement. You're also able use the voice-recording feature, which allows you to speak about that particular caption of movement.



Once you have created all your diagrams to emphasize particular portions of the movement, you're able to play back the video caption at whatever speed you choose. For the areas of emphasis that you made diagrams or points on, the application allows you to either pause at those respective still shots or keep the drawings displayed throughout the whole video.

When you're finished editing the video, you can play it back by using the icon at the top right-hand corner of the screen. You're also able to share the video online with others through the free Dartfish "tv" site. You can send it to the camera roll on your phone as well.

To me, this really adds another dimension to biomechanical analysis in your facility. The app is only \$4.99 and available for both the iPhone and iPad. I highly recommend it because I feel many patients are forced to have their sport-specific mechanics examined by people who aren't as qualified as physical therapists, because those individuals have expensive equipment allowing them to do so. This app now makes it possible for physical therapists to video their patients' biomechanics as well as comment on their movements in a very simple and concise manner. ■

*Greg Todd is the clinic director and co-owner of Renewal Rehabilitation in Hyde Park and Wesley Chapel, FL. He is also president of Physical Therapy Builder, a consulting firm designed to assist therapists in growing their private practices.*



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## Dartfish Express by Dartfish

Rating of Function for Physical Therapy Professionals	Number of Stars out of 5
Ease of Use	★★★★★
Relevance to PT	★★★★★
Frequency of Projected Use	★★★★★
Potential for Upgrade with Improvements	★★★★★
Usefulness for Therapeutic Intervention	★★★★★
Accuracy	★★★★★

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