

# Rhea & The Active Recovery™ Approach: Partnering with clinics to create better outcomes for concussion

## **The management and treatment of concussion can be challenging for both patients and practitioners.**

Given the individual and multifactorial nature of symptoms, a one-size-fits-all approach is not an effective treatment approach. “Recovery” is recognized as process driven, where individuals are advised to move through a gradual progression of functional capacity based on symptoms and goals. This leads to challenges accessing interdisciplinary clinics with rehabilitation expertise, patient education, and treatment adherence. Tracking a patient’s progress and response to treatment is critical for effective therapeutic approaches and recovery but is time-consuming and frequently limited to patient recall. Patients can be either vague on symptom improvement or hypersensitive to changes in symptoms; regardless, this can lead to less than optimal patient outcomes in the clinical setting where typical follow-up times are every 1 to 2 weeks.

Recent research has shown that an active approach to concussion rehabilitation optimizes recovery. While the active approach is becoming more widely accepted, there are limited effective, individualized, and responsive interventions that are easy to implement with corresponding educational support to reinforce adherence to the protocols.<sup>1</sup> Moreover, concussions often require the management of multiple symptoms and systems, such as neck injuries, vestibular issues, mood disorders, sleep disturbance, and cognitive deficits. Addressing and prioritizing the multi-system nature of concussion is time consuming. Leveraging the intersection between technology and health care enables practitioners to more efficiently manage and track recovery of their patients.

## **The overlapping and interactive nature of multiple body systems in post-concussion presentation challenges the acumen of even the most astute clinician.<sup>2</sup>**

The focus of this article is to outline a new Active Recovery path for concussion rehabilitation grounded in an evidence-based approach that provides practitioners and clinics with the tools to create personalized recovery plans for patients with digital progress tracking. As well, the platform incorporates a network of professionals that specialists in different disciplines can rely on for advice and patient referral if necessary.

# Active Recovery

**At Rhea, we've relied on the growing body of evidence for Active Recovery to create a platform that shows patients can recover faster and more fully following this path.**

Initially, the utility of aerobic exercise was examined in those with persistent systems, whereby researchers found a reduction in symptom burden and recovery time following the use of a standardized sub-symptom exacerbation aerobic exercise intervention.<sup>3</sup> Since the initial work in those with persistent symptoms, we have seen a consistent increase in studies investigating the use of aerobic exercise early following injury. In addition, a University of Toronto team found that early initiation of aerobic exercise following acute concussion was associated with a faster full return to sport and school or work.<sup>4</sup> More recently, findings from randomized controlled trials have emerged; Leddy and colleagues conducted the first RCT with a large sample size and showed that individualized sub-symptom threshold aerobic exercise treatment prescribed to adolescents with concussion symptoms during the first week following sport-related concussion increases the speed of recovery and may reduce the incidence of delayed recovery.<sup>5</sup>

One of the main limitations/drawbacks for patients who want to follow an active rehab approach post-concussion is the lack of guidance for exercise outside of in-person appointments. No well-defined protocols exist that clearly outline specific exercises and movements that are tailored, individualized, and responsive to meet the precise needs of a patient every step along their path to recovery; including the frequency, intensity, type, and duration of activity required to optimize healing...until now. Rhea's Active Recovery approach provides specific details for the type and intensity of exercises that will benefit patients throughout their recovery. Rhea's Active Recovery includes functional movements eliciting specific intensity, head acceleration, coordination, sensory and cognitive load elements.

**A minimum of 160 minutes of exercise per week was associated with symptom resolution after the first month of recovery.**

Howell and colleagues, 2021

**Early aerobic exercise may reduce the duration of symptoms following recovery while having little to no adverse effects.**

Hattrup, Gray, Krumholtz & Valovich McLeod, 2019

**Earlier initiation of aerobic exercise within the first week of injury was associated with a faster full return to sport, school or work.**

Lawrence, Richards, Comper & Hutchison, 2018

**An active rehabilitation intervention increases quality of life, decreases anger, and potential increases energy level and balance.**

Gauvin-Legage and colleagues, 2020

[View Additional Studies](#)

Also, Active Recovery extends beyond aerobic exercise given patients require specific rehabilitation based on symptoms and injury mechanism. We have observed the emergence of concussion subtypes, including cognitive, ocular-motor, headache/migraine, vestibular, anxiety/mood, and cervicogenic, and concussion-associated conditions such as sleep disturbance. Specific symptom clusters and complaints require directed intervention, and Rhea provides these therapeutic exercises digitally, recommending professionals for in-person treatment if necessary.



Neck



Vision



Sleep Hygiene



Balance



Education

# The Rhea Platform

Rhea is a new approach to treating concussion and other brain health conditions. We believe that the combination of in-person treatment and Rhea can transform how we treat brain injury and mental health conditions. Rhea is a comprehensive rehabilitation platform grounded in science that uses a unique Active Recovery strategy to help people recover from concussion and other brain health conditions. Our priority right now is successfully implementing Rhea to improve the recovery process following concussion.

The Rhea platform provides a personalized rehabilitation plan that focuses on movement exercises combined with insights and support from a range of healthcare professionals. Patients will not need any special equipment to follow recovery plans.

Rhea was developed by a clinical research team at the University of Toronto, an internationally renowned research institution in concussion and brain health. Collaborators included [Dr. Michael Hutchison](#) and [Dr. David Lawrence](#) from the Faculty of Kinesiology's Sport Medicine Clinic alongside other interdisciplinary experts.

**Rhea is a browser-based platform that can be accessed on your smartphone, desktop or smart TV.**

**Available at [getrhea.com](https://getrhea.com)**

## The Benefits for Clinics and Practitioners

Rhea provides expert concussion support and a turnkey solution for general practitioners to prescribe a personalized rehabilitation strategy based on an assessment of the patient. And, by providing progress reports and educating patients between appointments, Rhea frees up time for a more informed one-on-one patient interaction, improving clinical care.



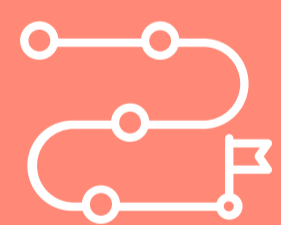
### **Create a tailored strategy in minutes**

Use Rhea to prescribe evidence-based exercises that patients can do at home between appointments. Each plan comes with interactive videos showing patients exactly how to perform each exercise, ensuring that your patient remembers what to do next.



### **Peace of mind for your patients**

Our platform is an easy source of information that you can provide directly to patients. Referring them to Rhea helps to address any questions or concerns they might have when they get home, avoid setbacks and concerns between appointments, freeing up valuable time during short appointments.



### **Track progress between appointments**

Rhea allows patients to track their symptoms and share their progress between appointments. This helps to improve patient recall and significantly reduces the length of time needed for follow-up appointments, which often require individualized attention and care.



### **Monitor additional touchpoints**

Gather medical data and insights from a patient's everyday life. Rhea helps to flag any changes in symptoms that could ordinarily go undetected for weeks between in-person appointments. This also provides a level of structure and guided autonomy during the recovery process.

## **Benefits for your patients**

- **A tailored strategy based on the Active Recovery approach that's been proven to help patients recover faster and more fully**
- **Interactive videos that outline how to perform the exercises prescribed in a patient's program**
- **Progress reports that are updated instantly as a patient tracks new information and symptom status**
- **Affordable access to the platform**

## **How to implement the Active Approach to recovery in your practice with Rhea**

If you'd like to deploy Rhea directly through your clinics, we can create a custom package that allows you to realize the benefits of Rhea within your operations. Connect with us at [team@getrhea.com](mailto:team@getrhea.com) and we'll get you set up with patient support materials that outline the platform, and a practice guide for your clinic.

**Get in touch to request a demo and we'll show you how Rhea could improve the quality of concussion treatment at your clinic.**

**Talk to us about becoming part of our Active Recovery Network.**

1. "How Do We Meet the Challenges of Assessing and Managing Concussion?" in Journal of Orthopaedic & Sports Physical Therapy, Volume 49, Number 11, page 766, November 2019.

2. Ibid., page 767.

3. Leddy J, Hinds A, Sirica D, Willer B. The Role of Controlled Exercise in Concussion Management. PM R. 2016;8(3 Suppl):S91-S100.

4. Lawrence DW, Richards D, Comper P, Hutchison MC. Earlier time to aerobic exercise is associated with faster recovery following acute sport concussion. PLoS One. 2018;13(4):e0196062.

5. Leddy JJ, Haider MN, Ellis MJ, Mannix R, Darling SR, Freitas MS, et al. Early Subthreshold Aerobic Exercise for Sport-Related Concussion: A Randomized Clinical Trial. JAMA Pediatr. 2019;173(4):319-25.