

SERIOUS PROBLEMS
Require
QUANTITATIVE SOLUTIONS

SUPPORT PROPER TRAINING AND
RECOVERY OBJECTIVELY

REDOAK INSTRUMENTS, LLC



CONCUSSIONS HAPPEN



EVERYDAY

A grayscale photograph of two female soccer players in action on a field. They are both wearing dark jerseys with light-colored stripes on the sleeves and light-colored shorts. A soccer ball is positioned between their heads, with one player's head touching it. The background is a blurred grass field. The text "IN VARIOUS WAYS" is overlaid in the center in a bold, dark red font.

IN VARIOUS WAYS



SOME ARE OBVIOUS



SOME ARE NOT

WHAT IS A CONCUSSION?

...

**A CLOSED HEAD INJURY WITHOUT
VISIBLE BLOOD, APPARENT
SYMPTOMS OR INJURY**

LIKE A BROKEN LEG OR A BROKEN ARM

...

**A CONCUSSION IS A SERIOUS
INJURY**

CAUSING 2,000,000 ER VISITS A YEAR

...

**BUT 15% TO 20% ARE
RELEASED **WITHOUT** DIAGNOSIS**

AND THAT LEADS TO

...

CHRONIC **LIFELONG DISABILITY
FOR 5.8M+ SURVIVORS IN THE
US ALONE (80 – 90K added/yr)**

What Do We Need?

...

OBJECTIVE DETECTION OF CONCUSSIVE INJURIES

WE HAVE A SOLUTION

- Portable – test anywhere with your computer
- Rapid tests ~ 7 minutes
- Objective (quantitative) measurements
- Repeatable and reproducible results
- 3000 biomechanical measurements/second
- Results cannot be hidden or deleted
- HIPAA compliant data storage
- FDA approved
- Cost effective



OBJECTIVE, QUANTITATIVE MEASUREMENTS

01 BASELINE ATHLETES

- WHAT IS 'NORMAL' ?
- OPTIMIZE TRAINING
- MONITOR AFTER GAMES

02 TEST

- RESULTS STORED REMOTELY – CANNOT BE "LOST"
- VIEWABLE REMOTELY
- HIPAA COMPLIANT

03 DETECT INJURY

- SIT OUT!
- PROPER MEDICAL ATTENTION
- MONITOR RETURN TO PLAY RECOVERY

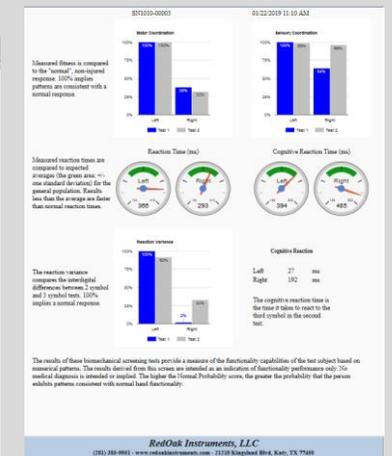
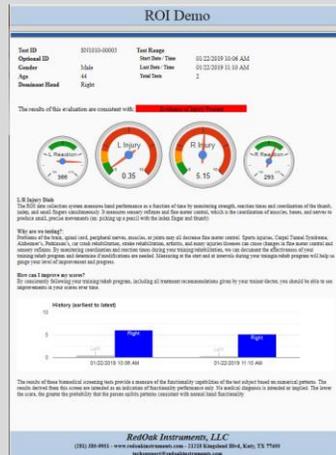
TEST REPORTS EASY TO READ & UNDERSTAND

Screening Report:

Used for rapid screening when a quick check is warranted

Augmented Report:

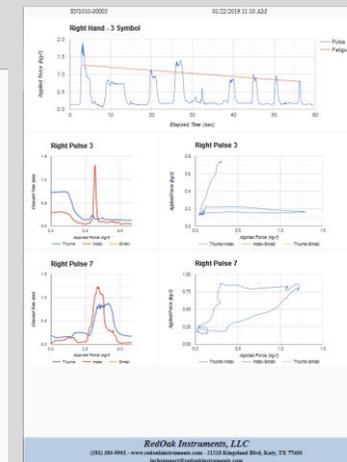
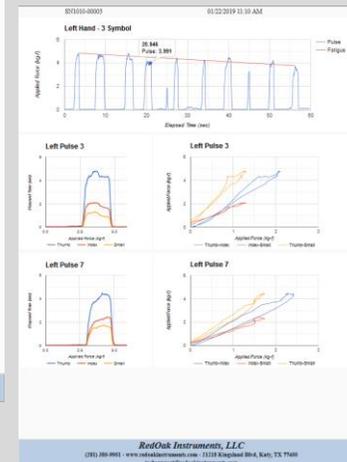
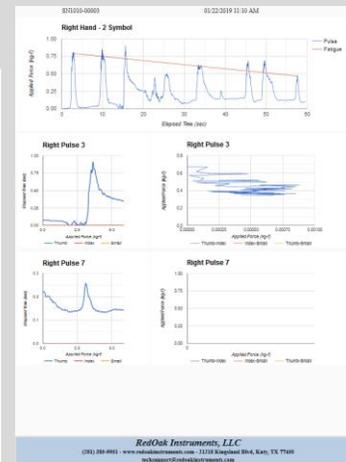
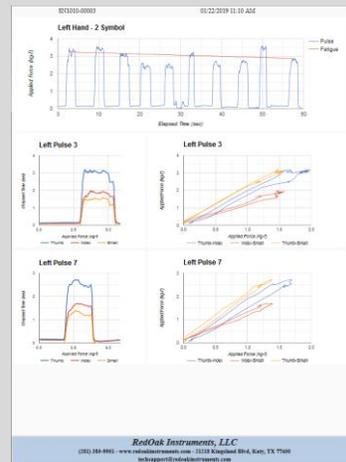
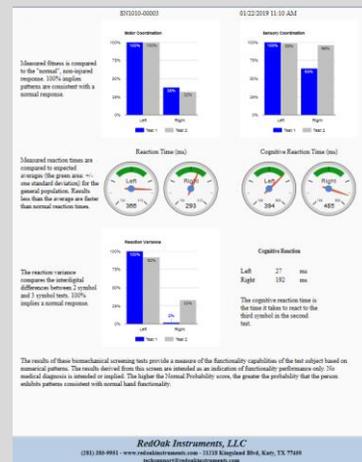
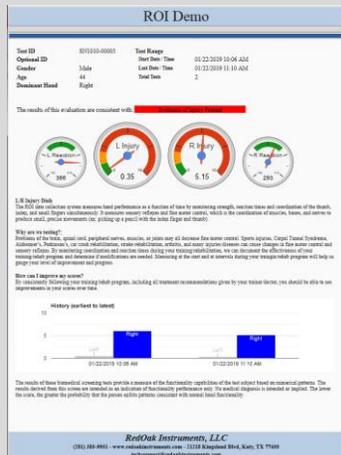
Suggested for coaches, trainers and parents looking for an easy to digest snapshot



TEST REPORTS EASY TO READ & UNDERSTAND

Comprehensive Report:

Suggested for physicians, nurses and medical staff looking for underlying data and analysis



SPORTS APPLICATIONS



Training



Injury
Detection



Rehab



Cover your bases

MEDICAL APPLICATIONS & BETA STUDIES



MDs

- Stroke evaluation
- Hyper-bariatric mTBI treatments
- CTS and fibromyalgia documentation
- Geriatric evaluation (Potentially Alzheimer's)



DCs & LAC

- Demonstrate efficacy of treatments
- Document new Spinal realignment methods
- Document wellness treatments



PTs & OTs

- Stroke rehabilitation
- Support post surgery evaluation – training – rehab
- Document sports training and rehab

CAN WE COMPETE?

Test/Assessment		Cognitive / Behavioral	Physiological	Uses Questionnaire	Repeatable / Reproducible	Time (min)
RU-Fit™	Red Oak Instruments, LLC	X	X	X	X	7
SAC	Standardized Assessment of Concussion	X		X		30-60
BESS	Balance Error Scoring System		X	X		30-60
GSC	Glasgow Coma Scale	X		X		30-60
MACE	Military Acute Concussion Evaluation	X		X		20
ImPACT	Immediate Post-Concussion Assessment and Cognitive Testing	X		X		20
PET	Positron Emission Tomography		X		X	90

ABSOLUTELY!

ROI DEVELOPMENT

CONCEPT

- Prototype built
- Basic research to ensure valid measurements
- Patents
- Publications in technical journals (peer reviewed)



DEVELOPMENT

- Multiple discipline studies
- Develop usable test reports
- Improve software and user manuals
- Packaging



MARKET STUDIES

- Sports Trainers
- Physical Therapists
- Orthopedics
- Acupuncturists
- Chiropractors
- Psychologists



REIMBURSEMENT

- Low per test \$63
- (99242, 97750, 99091-26)
- Pay per test or unlimited tests
- Report levels depending on need or cost



READY FOR COMMERCIAL GO TO MARKET

HARDWARE



- 96 Systems built
- Two hand sizes built
- Modified report systems developed for different users
- Redundant HIPAA compliant server system in place

REGULATORY



- Registered as a medical device manufacturer
- GUGID* complete – bar codes on equipment
- FDA 510-K
- IP established
- Peer published

*Global Unique Device Identification Database

OPTIMIZATION

- Developing marketing videos
- Established Social Media Presence on Facebook and LinkedIn
- Updated website
- Training sales force

Concussions are a
SERIOUS PROBLEM...

ROI has a
QUANTITATIVE SOLUTION...

REDOAK INSTRUMENTS, LLC