

Testing of the Independence Saddle



- Michigan State University
 - May 28, 2008

History of the Collaboration...

In September of 2007, the staff of Independent Strides, having developed The Independence Saddle, a patented adaptive saddle for individuals with severe multiple impairments, sought credible feedback from an experienced and respected NARHA (North American Riding for the Handicapped Association) instructor. Their search led them to Bonnie DePue, President of C.H.U.M. Therapeutic Riding, an innovative therapist with both long-standing affiliations with NARHA and research connections to Michigan State University.

Bonnie was given the saddle and a copy of our brochure (see below) with the primary goal of assessing the saddle's viability as a safe and effective tool for therapy by using it with her riders and therapy horses. Bonnie, ever cognizant of NARHA's commitment to safety, felt it was important to have formal testing done through Michigan State University to legitimize her findings that the saddle is not only capable of delivering effective therapy to individuals, but also safe for therapy horses to use. It is through both Bonnie's vision as well as her unrelenting efforts that this collaborative testing took place.

THE INDEPENDENCE SADDLE

In the wake of more than six years of in-depth research and development, **The Independence®** saddle offers more freedom for the rider than any other available technology.

As a Class I Medical Device, The Independence saddle provides physical, occupational and psychological therapeutic opportunities. The saddle offers each rider an immeasurable sense of success and self-fulfillment, maximizing their quality of life.

The Independence saddle is an Australian saddle which features a prompt reduction technology that gradually allows more independent sitting on horseback. The saddle is designed to adapt to the needs of each rider. As strength and skills improve, the support prompts may be reduced or removed to encourage greater independence. The prompts include a fixed seat, backrest, side-arms, forearm supports, as well as hand grips, all of which are adjustable and removable. The saddle and prompts include a safety release and peacock iron for quick and safe dismounting of the rider in the event of an emergency.

THERAPEUTIC BENEFITS

The Independence saddle is designed for people with severe disabilities based on the MOVE (Mobility Opportunities Via Education) principles and concepts:

- positions the rider promoting independent balance, head and trunk control, and interaction with the horse.
- allows the rider with severe impairments to experience the full range of benefits of equestrian therapy in improving bone and joint health through increased range of motion and muscle strength.
- promotes the rider's self-esteem by allowing freedom from assistance of a back-rider and minimizing the need for sidewalker assistance, thereby increasing the psychological benefits of equestrian therapy.

The Independence saddle has been endorsed by MOVE International, an organization dedicated to helping children and adults with disabilities. Visit www.move-international.org online.

COLLIN DANGAARD: SADDLE MAKER | "THE HORSE AS HEALER"

The Independence saddle is built by Collin Dangaard, President of the Australian Stock Saddle League of Malibu California. Dangaard, with over 30 years of experience in saddle-making, has fit over 80,000 horses with saddles in his career. He was the first to successfully market the Australian Stock Saddle in North America. The particular model used in the Independence Saddle is called The Survivor Policy which is a modernized version of the classic Australian Stock Saddle, popular in the Australian bush for over 100 years.

Dangaard: "A characteristic of this saddle is that it has an enormous weight-bearing surface area. The weight of the rider is spread over several hundred square inches, depending on the size of the saddle, thus dramatically lowering pounds per square inch. The Independence Saddle's design takes full advantage of this weight distribution characteristic, using a specially engineered stainless steel bracket that is built into the tree of the saddle. This is important with a rider who has physical impairments, because the rider is not able to move with the horse, as a normal rider should."

Dangaard also points out that because of the Survivor Policy characteristic of being easy on the horse, it has become especially popular with mounted police and military patrols whose riders often have 12-hour days while on patrol. As an example, Dangaard has supplied our US Special Forces in Afghanistan with the Survivor Policy as the military's saddle of choice.

FEATURES

- Australian Survivor Policy Saddle with Independence designed stainless steel bracket
- Neoprene girth with tackleberry buckle
- English leathers with Peacock safety irons
- Adjustable back and head rests
- Stainless steel adjustable arm supports
- Rigid fully adjustable forearm support prompts with hand grips
- Safety release
- Saddle weight: 30 pounds
Independence adaptive device: 25 pounds
Total weight with all prompts: 55 pounds
- Saddle seat sizes: 12" to 16.5"

Price of the Independence saddle: \$5025
Price is subject to change without notice
Price at time of shipping prevails.

Adjustable head rest provides support for those with weak neck control.
Adjustable back rest aids in maintaining a balanced sitting position.

Adjustable neoprene maintains forearm placement.

Robust forearm supports accommodate most arm positions, stabilizing the shoulder, girth and seat.

Stainless steel arm supports designed to adjust to the width of each individual.

A range of adult or children's saddles are available.

A specialized bracket provides stability to the support unit.

A quick release pull provides ease for an emergency dismount.

It was like he was meant to ride. He could finally do something he loved—by himself.
— Rebecca Kitzewski

The McPhail Equine Performance Center



Comprehensive testing of the Independence Saddle, and its effect on the horse took place on May 28th at the Mary Anne McPhail Equine Performance Center, a state-of-the-art equine sports and lameness facility on the campus of Michigan State University. Since the center opened in the year 2000, incredible progress has been made, culminating in world-renowned research to benefit performance and soundness of equine athletes. This presentation chronicles the collaborative efforts of visionary members of the staff of MSU and C.H.U.M. Therapeutic Riding to assess the viability of The Independence Saddle.



The Gaide Arena, where the testing of the Independence Saddle took place, is the centerpiece of the McPhail Equine Performance Center. Made possible by a gift from Dale and Irene Gaide, the arena measures 130 feet by 70 feet and has a footing composed of 2 inches of a specially designed sand/rubber mixture on top of a packed limestone base.

The arena can be used by clinicians at the College of Veterinary Medicine to evaluate horses lunging on a soft surface and also while being ridden. The Brown runway and the Edwards evaluation alcove run along the south side of the arena, making it possible to utilize the arena during equine gait analysis and lameness evaluation.

MARY ANNE MCPHAIL EQUINE PERFORMANCE CENTER



■ Personnel

■ The McPhail Equine Performance Center is a multi-disciplinary team of veterinarians, animal scientists, kinesiologists and engineers whom collectively work together to improve the health and well being of sport horses.



McPhail Chair

Hilary Clayton, BVMS, PhD, MRCVS- Dr. Clayton received her veterinary degree from Glasgow University, Scotland in 1973. After two years in mixed veterinary colleges in Scotland, she returned to Glasgow University and completed a PhD. She worked at veterinary colleges in the UK, Canada and the Netherlands before coming to MSU in 1997 as the first incumbent of the Mary Anne McPhail Dressage Chair in Equine Sports Medicine. Her research interests are in biomechanics of locomotion and lameness and development of conditioning programs for equine athletes.

MARY ANNE MCPHAIL EQUINE PERFORMANCE CENTER

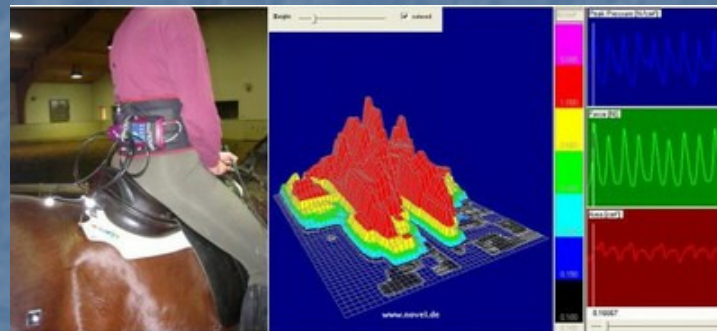


Lab Manager

LeeAnn Kaiser, BS. MS (2005-present), LeeAnn earned her bachelors in Exercise Science from Grand Valley State University and her masters in Sports Biomechanics From the University of Delaware. She is responsible for the day-today supervisions of The McPhail Laboratory and equipment. She organizes clinics and events for the McPhail enter and supports the staff and students in designing, implementing, Analyzing and reporting on research in equine biomechanics.



LeeAnn adjusts the sensor pad for the Novel Pliance Saddle System which measures the pressure distribution between the rider and the horse.



Research Capabilities

The Mary Anne McPhail Equine Performance Center is a well-equipped facility for research in the area of equine gait analysis. Equipment includes a Motion Analysis system, AMTI force plate, Noraxon EMG system, **Pliance Saddle Pressure Pad** and other custom equipment for making measurements of horses and riders.



LeeAnn consults with Dr. Lana Kaiser and Dr. Michael Lavagnino, mechanical engineer, as they collect data from the horse and rider.

MARY ANNE MCPHAIL EQUINE PERFORMANCE CENTER

MICHIGAN STATE
UNIVERSITY



Other notable members of the multi-disciplinary Saddle Testing team:

Dr. Camie Heleski- Department of Animal Science , Animal Behavior and Welfare, Coordinator of the 2 year AG Tech Horse Management Program.

Dr. Michael Lavagnino- PhD in mechanical engineering from MSU. Responsible for assisting in all aspects of data analysis.

Dr. Lana Kaiser – MD, PhD, DVM, An expert on the relationship between humans and animals. Directs MSU's Human-Animal Bond Initiative. Dr. Kaiser has recently focused her research on the relationship between humans and animals including the effect of therapeutic riding on both the horse and rider.

Bonnie DePue – OTR, President of C.H.U.M. Therapeutic Riding. Bonnie, a NARHA certified instructor for many years was instrumental in organizing the MSU saddle testing, utilizing her affiliations with various departments within Michigan State University. Bonnie's interest in research and on-going education, as well as her commitment to providing innovative, cutting-edge therapy led the staff of Independent Strides to contact her to field-test the Independence Saddle in September, 2007. Since that time, Bonnie, recognizing the potential for the Independence Saddle to provide unprecedented therapeutic benefits for riders with severe multiple impairments, has worked tirelessly to build the credibility of the Independence Saddle by testing it with her riders, speaking about it at NARHA and 4-H meetings, and providing valuable feedback to the Independent Strides manufacturers.

Realizing the need for quantitative data determining that the use of the Independence Saddle as a therapy tool would not adversely affect the horse in any way, Bonnie was the primary facilitator and organizer of this multi-departmental testing process. The data gathered during the day-long testing will be analyzed by the team of PhDs from various fields to conclude unequivocally that the Independence Saddle is safe for both horse and rider.

Testing the Independence Saddle



LeeAnn and Bonnie confer with Dr. Kaiser and Dr. Heleski prior to the testing process.



LeeAnn positions the Pliance Saddle pad, prior to putting the Independence Saddle on the horse.



Data from the 224 sensors in the saddle pad is sent wirelessly to the computer for analysis.



Dr. Kaiser, Dr. Clayton, and Dr. Lavagnino monitor the data collection.

Testing the Independence Saddle



Raven and Genelle, riders from C.H.U.M. Therapeutic Riding, wait with their parents for their turn to test the saddle.



Bonnie adjusts the Independence Saddle on top of the Novel Pliance Saddle Pad.



Heather, a C.H.U.M. volunteer, acts as the baseline rider for testing the weight of the saddle on the horse.



Dr. Lana Kaiser times each rider as they walk around the arena in the saddle.

Testing the Independence Saddle



Genelle's part in the testing process is to demonstrate the effects of the Independence saddle on a horse in a real-life riding situation.

Genelle was hesitant to use the Independence Saddle last fall- now she refuses to use any other kind of saddle.

Raven and Genelle have nicknamed the Independence Saddle "The Happy Saddle" and "The Super Saddle".



Raven patiently waits for the wireless monitoring equipment to be set up prior to her test ride in the Independence Saddle. Raven's core strength has improved dramatically in the nine months since she has been using the Independence Saddle.

Testing the Independence Saddle



As Dr. Lana Kaiser looks on, Bonnie DePue adjusts the Rifton fore arm supports for Dr. Hilary Clayton, who took the opportunity to personally ride in the Independence Saddle to gain a better understanding of how it feels for the rider.

MARY ANNE MCPHAIL EQUINE PERFORMANCE CENTER



Special Thanks to:

Bonnie DePue, C.H.U. M. Therapeutic Riding
Heather- C.H.U.M. volunteer
Jules- C.H.U.M. volunteer
Holly- CH.U.M. volunteer
Horses – C.J. and Glory
Genelle and family
Raven and family
Dr. Hilary Clayton
Dr. Lana Kaiser

Dr. Michael Lavagnino
Dr. Karen Waite
Dr. Karen Plaut
Dr. Camie Heleski
Dr. Roger J. Bresnahan
Dr. Frank Fear
LeeAnn Kaiser
Sherman Gorbis

Power Point Presentation: Ginni Lampe
INDEPENDENT STRIDES
509 Franklin Avenue
Grand Haven, MI 49417
(616) 850-0338
www.independentstrides.com

MICHIGAN STATE
UNIVERSITY

