

Horse in Motion by Muybridge. source: wikipedia.org



Equine Gait Analysis

Finally within reach

by Christine Scully

BAppSci (Equine Studies) Honours Class 1 (C.Sturt),
Cert Sports Massage, Cert MFR, Cert IV Training & Assessment

In 1878, a photographer by the name of Muybridge decided to investigate if "horses flew". To do so he set up a line of cameras, each of which was tripped when an attached wire was hit by the chest of a galloping horse.

The development of film and video has allowed great advancement in the analysis of movement. Today the technology has come out of the lab and into the field.

Through the Australian College of Animal Tactile Therapy (ACATT) Christine Scully offers gait analysis for selection and assessment of equine movement for masseurs and other practitioners. ACATT is the first Equine Therapy College using this technology in their study programs, Equine Movement Clinic and research.

Muybridge was successful in showing for the first time that in phases of the horse's movement the all four legs were off the ground. This study not only was the first definitive study of equine movement, but was the precursor to all moving films.

Since Muybridge, much research has been done on horse gait, breed differences, specifics of elite athletes, musculoskeletal issues, and lameness effects. Thus, there is a large body of knowledge which, up until recently, was only utilized by research centers and large Equine Hospitals.

The technology may have been available for many years, but until recently it remained cost prohibitive. Today it is affordable by most horse people.

With greater access to the knowledge and equipment in the field, video gait analysis has become a possibility for practitioners, trainers, horse riders and owners.

Equine Gait Analysis

Equine gait analysis is simply a method of viewing a horse's movement and assessing items of interest such as length of stride, angle of joints etc. Traditionally these qualities of gait are assessed using the naked eye.

In Video Gait Analysis the horse is videoed in a specific way and the video is viewed through a computer based system and specific measurements made.

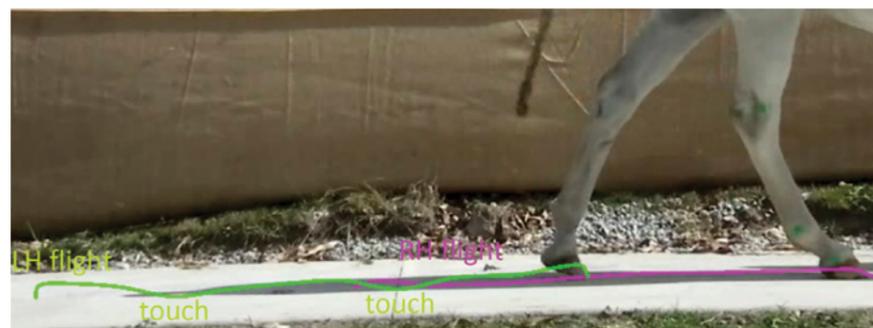
The horse can be filmed and assessed at any gait – as long as the camera used is adequate. Being able to assess the qualities of gait in this manner allows a permanent, accurate record of changes over time in relation to training or rehabilitation, and also has the advantage of being used to see the immediate effects of changing hoof balance, massage treatment or riding instruction.

Let's take a look at how it can be utilized to assist your equine management or business.

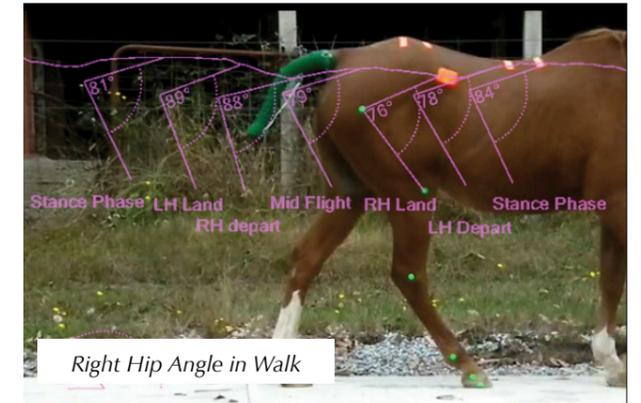
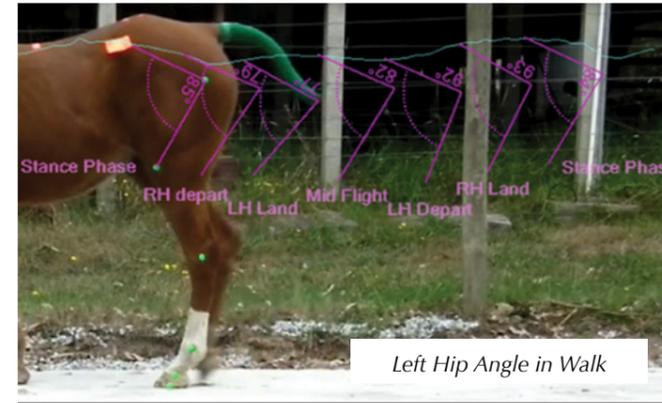
For Equine Therapists

This group of practitioners includes Masseurs, Tactile Therapists, Chiropractors and Osteopaths that treat musculoskeletal issues and deal with equine performance.

Currently most practitioners watch horses with their naked eyes. While this is adequate for ascertaining



This image shows the arc of the hind limb flight in walk.



lameness and other obvious issues, our eye is not able to catch and comprehend all that we see, especially at faster gaits such as the trot, canter and gallop.

Equine Video Gait Analysis allows the therapist to slow the motion and note any deviations from what is considered normal. This enhances the accuracy in viewing and recognizing the problem, and the effectiveness of treatment. Assumptions of assessment are reduced and issues can be immediately addressed, reducing lost performance time.

For Farriers

Farriers are directly involved in maintaining or enhancing equine movement. Being able to view the horse's hoof movement in slow motion will allow complete assessment of hoof balance and ensure alterations are of benefit. Just like the equine therapist, the farrier can easily show the client what the issue is, and follow up by showing the effect of the treatment on the horse's movement.

For Veterinarians

Equine gait analysis is a wonderful adjunct to veterinary investigations of gait problems. In conjunction with the tools the veterinarian currently uses such as x-rays, scans and nerve blocks, Video Gait Analysis is a wonderful tool to assist in locating the issue, thus reducing the time to investigate, and the cost to the client.

In pre-purchase examinations, Video Gait Analysis allows the Veterinarian to clearly view all qualities of stride and assess if the horse's movement is suitable for the intended purpose.

For Horse Trainers

Whether it be racing, dressage, jumping, eventing, polo, barrel racing or other, trainers benefit from analysis of those horses that are not advancing as expected. This allows early identification of any issues, and prompt planning to address them, enhancing the effectiveness of training and reducing the risk of injury.

Trainers can also assess changes in quality of movement that result from training. This is an effective measurement tool which, when used in conjunction with their current assessment methods, aids in assessing when a horse is fully prepared to advance to a higher level of education.

For Riding Instructors

Imagine the benefit of being able to show your students the influence of their position on the horse while the riding lesson is underway. Video gait analysis allows you to mark and measure the rider and the horse, showing clearly the effect of changes of body position on the movement of the horse. Visualization allows the instructor to easily identify any issues with rider position and is a tool to demonstrate to the rider how they are riding, and specifically where they could improve.

For Selection

A growing area for A.C.A.T.T. is the use Video Gait Analysis in selection of race and performance horses.



Hoof Assessment Trot

Elite Sports Horses including racehorses are extremely valuable. Using a tool, such as Video Gait Analysis, reduces some of the risk in relation to purchasing a horse that is suitable for the task to be performed.

A detailed assessment of a horse's movement prior to purchase can point out possible issues, allowing an informed decision to be made about purchase. It is also possible to compare what is found with specifics of gait known for elite sports horses. This gives buyers far more information about that horse than is gained by watching the horse in work or through buying on bloodline alone.

How do you gain access to Video Gait Analysis?

You can set up your own system and analyse any horse you wish in the time that is appropriate for you. You need a camcorder, a lap top and a Computer Gait Analysis System, it is that simple. The computer based program will allow you to slow the video down so you can watch the horse in slow motion.

Alternately you can employ the services of a Gait Analysis Specialist such as Christine Scully, who uses a high speed camera allowing extreme slow motion viewing, and provides the knowledge and experience of a professional practitioner.



Conformation Analysis Hind

ABOUT THE AUTHOR: Christine Scully is the Managing Director and teaches at the Australian College of Animal Tactile Therapy (A.C.A.T.T.) In 1994 she developed a basic gait analysis system to analyse the progression of training in dressage horses. Since 2011, she incorporated a computer Gait Analysis System and high speed camera to enhance accuracy. A.C.A.T.T. use and sell the EquineTec Gait Analysis System. Should you wish to know more contact Christine at ACATT (03) 9752 1688, acatt@alphalink.com.au or visit the website: www.acatt.net