

Equine Ergonomics: the science of designing equipment to fit the horse and rider. Proper ergonomic design is necessary to prevent injuries, which can develop over time and can lead to long-term disability. Equine Ergonomics is a scientific discipline concerned with the understanding of interactions among humans and horses, and the profession that applies theory, principles, data and methods to design in order to optimize equine well-being and overall performance. Equine Ergonomics is employed to fulfill the two goals of health and productivity for both horse and rider. Ergonomics is concerned with the 'fit' between people and horses, using the saddle as the interface. It takes account of both the horse and rider's capabilities and limitations in seeking to ensure that equipment such as saddles suit both.

To assess the fit, equine ergonomists consider the discipline and the demands on the horse; the equipment used (its size, shape, and appropriateness), and the information used to evaluate this. Physical ergonomics is most relevant to our industry, as it is concerned with human and equine anatomical, anthropometric, physiological and biomechanical characteristics as these relate to physical activity.

The term ergonomics is derived from the Greek words *ergon* [work] and *nomos* [natural laws]. Extrapolated into equestrian terms, we add Equine to the title to come up with the Natural Laws for Working Horses. People and horses come in all different shapes and sizes, and with different capabilities and limitations in strength, speed, judgment, and skills. All of these factors need to be considered. When sitting in a saddle, the main part of the body weight is transferred to the seat, and onto the horse's 'saddle support area'. Where the weight is transferred is the key to a good saddle design. When the proper areas are not supported, sitting in a saddle can put unwanted pressure on the rider's back as well as the horse's back, causing pain to both.

Physical ergonomics is important in the equestrian field, particularly to riders diagnosed with physiological ailments or disorders and for horses displaying symptomatic signs of discomfort. Pressure that is insignificant or imperceptible to some may be very painful, or render a saddle unusable, for those who are. Ergonomically designed saddles such as ours are used or recommended to treat or prevent issues causing such symptoms, and to treat pressure-related chronic pain.

Saddle fitters may either take the reactive or proactive approach when applying ergonomics practices. Reactive ergonomics is when something needs to be fixed, and corrective action is taken. Proactive ergonomics is the process of seeking areas that could be improved and fixing the issues before they become a large problem. The true equine ergonomist will always work proactively; sometimes however a reactionary process is all that is available to fix a problem caused by something else.