

The DIERS 4D motion® Lab synchronously measures the foot pressure conditions, the movement of the legs and pelvis, as well as the movement of the spine while walking.

In case of ...

- ✓ Foot problems
- ✓ Joint pain
- ✓ Back pain



### Do you suffer from pain or discomfort in your feet, legs, pelvis or back?

Often, the cause of this complaint can be found remotely from the location of discomfort. Measuring the movement pattern of the complete body helps to find the source of the complaint.

### Would you like to prevent future complaints?

We highlight possible problems at feet, knee, hip or spine in an early stage and can take appropriate actions to prevent long-lasting problems.

### Would you like to follow the growth of your child?

During development, problems in foot position and/or in general posture can appear. When these issues are discovered in an early stage, they can often be treated relatively easy.

### Are you using any prosthetics, orthotics or shoe insoles for your daily activities? Is your ability to function limited due to neurological problems?

We can measure whether or not you currently have the optimal solution, or whether better solutions might be possible.

### Are you currently in rehabilitation?

We can follow up the healing process after an injury or operation, to get you in your best possible shape for daily living.

### Do you want to enhance your performance?

The system allows you to choose the optimal sport shoe, possibly with orthotics based on your movement pattern. This may help you to prevent any injuries and can improve your performance as well.

We would like to advise you.



**AMERICAN MEDICAL CENTER  
PHYSICAL REHABILITATION**

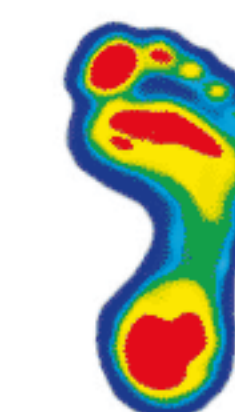
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## How is it going?



## Gait analysis by full body assessment

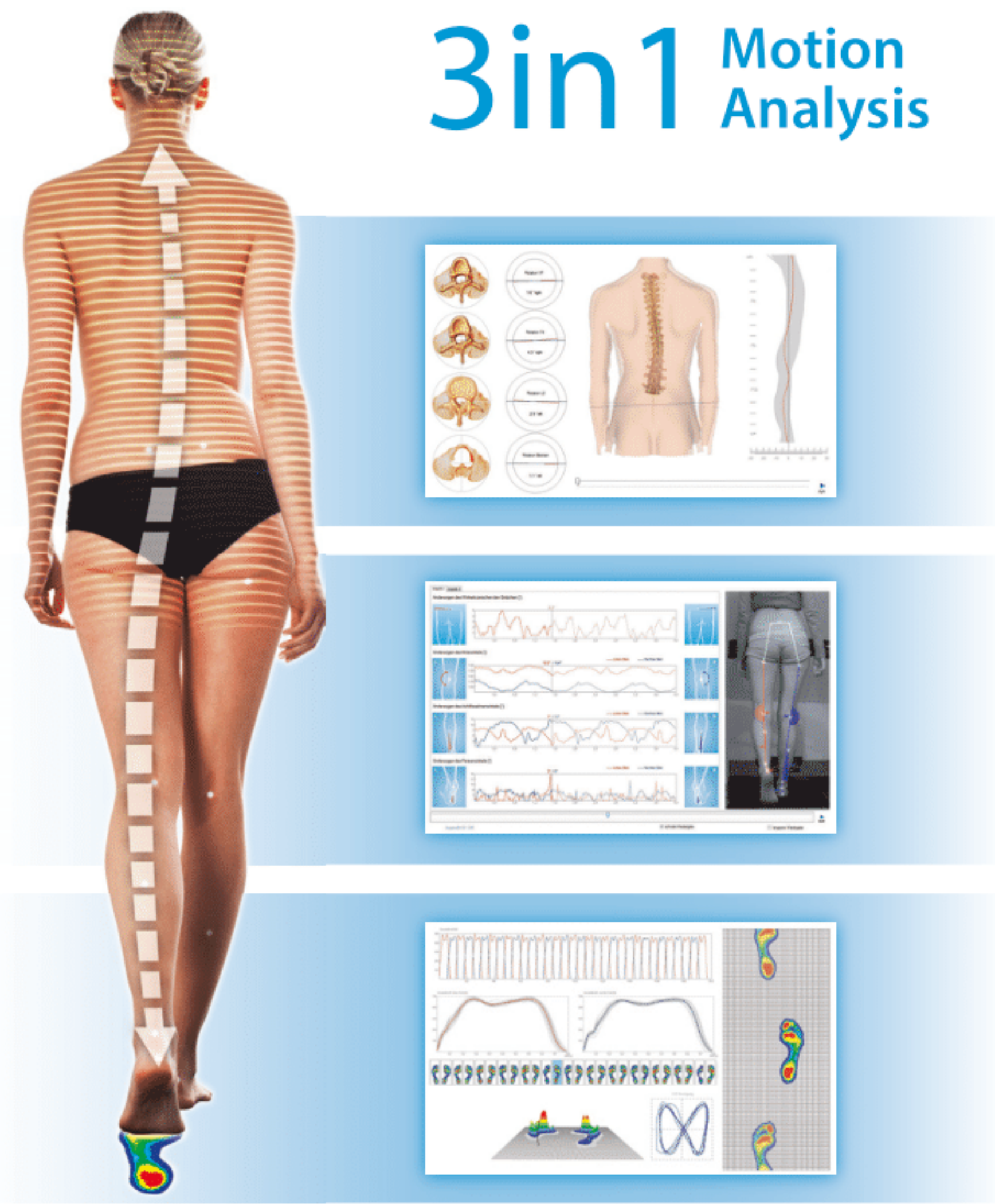
DIERS 4D motion® Lab



**DIERS®**  
BIOMEDICAL SOLUTIONS



# 3in1 Motion Analysis



## The human gait - a complex mechanism

Physically, one of the most important things in life is to be able to move freely and unimpaired. Yet most of us are not aware of the variety of muscles, joints and nerves which must work together in harmony to make coordinated movement possible. Even a slight disruption in this complex interaction can lead to serious movement constraint.

The source of the pain or discomfort is not always located where it is felt. For example, back pain and knee problems can be caused by issues with foot pressure or alignment, which in turn affects the entire body posture. For this reason it is necessary to measure the whole body in its entirety in order to obtain a reliable diagnosis.

The DIERS 4D motion® Lab is the system which can provide your physician the comprehensive information which is needed.

## DIERS 4D motion® Dynamic Spine Analysis

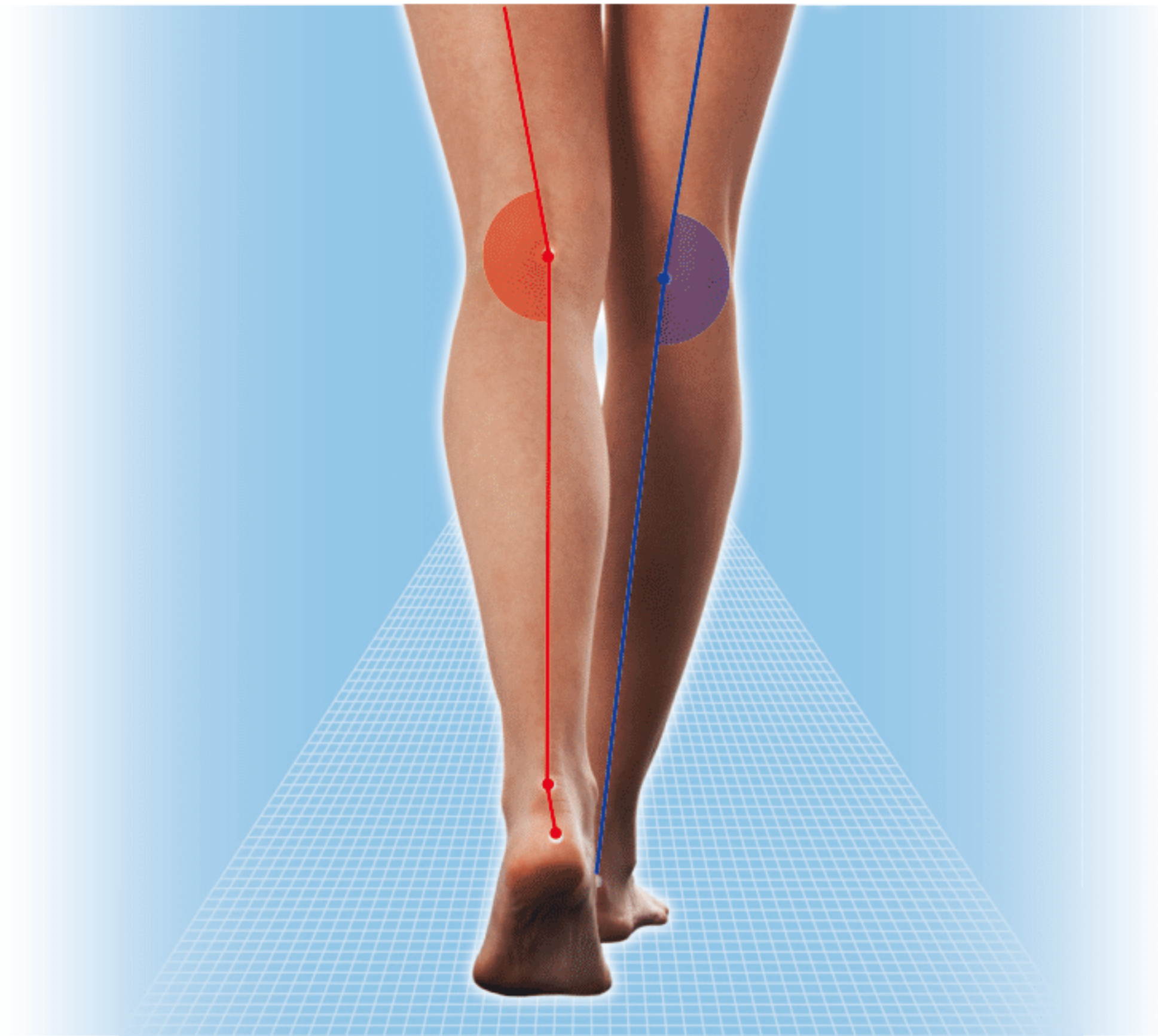


## The spine - our supports and stabilizes our body

The innovative DIERS 4D motion® measuring system is the first device capable of measuring the entire spine and posture while the patient is walking, and can therefore identify abnormalities in the gait pattern and determine the best treatment. It operates entirely radiation-free using light patterns. A light grid is projected on to the patient's back and recorded by a video camera. A unique software program then analyzes the line curvature and generates a three-dimensional model of the surface; creating a 'virtual plaster cast'. Through analysis of the surface curvature and detection of anatomical landmarks it is possible to reconstruct a dynamic 3D model of the entire spine.

Beyond that, the measuring system conveys valuable information on full body statics and posture while walking, e.g. curvature of the spine, rotation of the vertebrae, position of the pelvis and possible muscle imbalance.

## DIERS leg axis Video Gait Analysis



## The legs – keep us moving

Legs must carry body weight throughout an entire life. Walking considerably strains the hips, the knees and feet. Imbalances, degeneration or injury can seriously impair function and cause pain.

even the slightest abnormalities in leg symmetry, i.e. posture and gait. With the aid of small adhesive markers applied to the legs, special recognition software recreates the structure of the leg axis and calculates the angles of the pelvis, knees and joints in the feet.

Pelvic tilt, gait imbalance, knee malalignment, fallen arches and other conditions can be clearly diagnosed which will make it possible to develop a custom pain treatment plan.

## DIERS pedogait Foot Pressure Measurement



## The feet – carry us and keep us balanced

The physical condition of the feet strongly influences an individual's overall health and well-being. Knee and back problems as well as headaches frequently result from foot problems. The foot pressure measurement captures the reaction forces while walking using a pressure-sensitive measuring plate and special analytical software to illustrate the results-precise, conclusive information about all major factors which impact the function of the feet quickly obtained. With this technique even the slightest foot disorders can be identified and then corrected through optimal treatment, e.g. adaption of footwear, insoles, or physical therapy. The foot pressure measurement is not only applicable for the diagnosis of foot pain, but also for knee or leg pain, tendon or joint inflammation, as well as back pain or headaches which are influenced by the feet.