DIGITSOLE® PRO

Case Study

Iliotibial band syndrome right and left leg, after running 5km the patient has to stop.

The practitioner

Fabrice Millet has been a sport podiatrist since 2003, specialising in running and cycling, and is an instructor in the Sport Podiatry D.U. in Lyon.

He has a highly varied patient clientele, including athletes and ranging from children to the elderly. In an ad hoc manner, he uses a pressure platform as well as a video device to analyse running for athletes.

Since November 2019, Fabrice Millet has used DigitsolePro for all of his podiatry consultations, which allows him to detect problems with mobility in both walking and running, and to obtain a better evaluation of his patients by measuring objective biomechanical data that cannot be observed with the naked eye.

Patient information & reason for the consultation

Man, 42, runner, average 8000 steps per day

Iliotibial band syndrome right and left leg, after running 5km the patient has to stop.

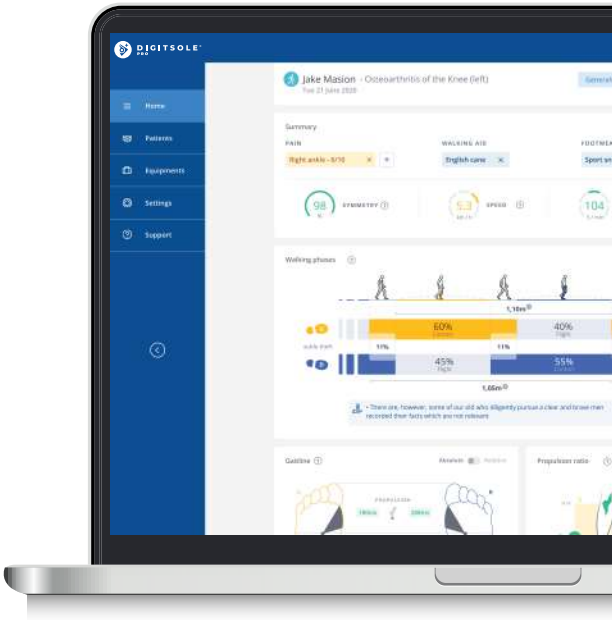
How do you use DigitsolePro in your daily activity?

I use DigitsolePro for the dynamic analysis (walking or running depending on the patient).

I collect the data and then I show and explain them to the patient, which also allows me to explain the treatment that I will propose to them.

Do you use other movement analysis systems? If yes, which ones?

For athletes, I use a camera and Kinovea software



What are the most frequently used parameters and how are they used?

The sport podiatrist analyses the gait line, the swing phase, and the ankle roll (absolute)

The Gaitline

provides a **quick overall view of the walk** and shows what abnormalities may be detected. The contact times are indicated by step phase, allowing one to visualise a potential difference between the two sides and monitor the evolution.

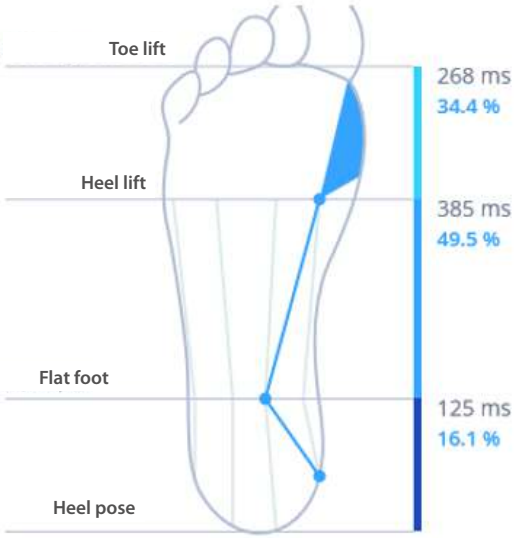
The swing phase

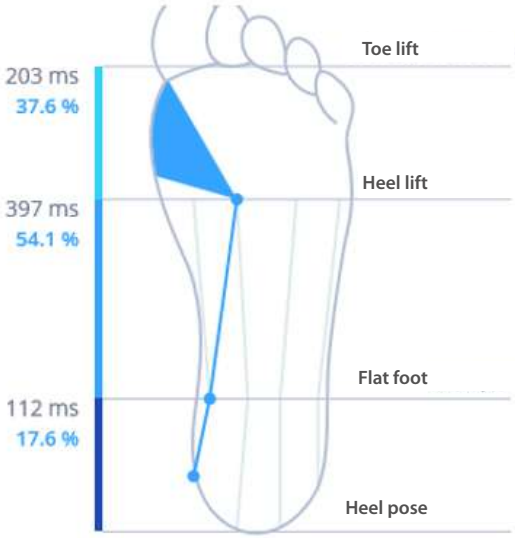
is used to determine **propulsion ratio** and the muscles that create the propulsion. In this way, the symmetry between the two legs can be verified.
The swing phase is also used to analyse the length of the stride and the similarity between the two sides. These data help in advising patients regarding daily exercises to avoid asymmetry (strength training, proprioceptivity, etc.).

The ankle roll

allows for the visualisation **angles when striking, flat footed, and during propulsion** in specify corrections.
The illustrative graphic is explained to patients, who can see their deformations and the differences between the two sides.

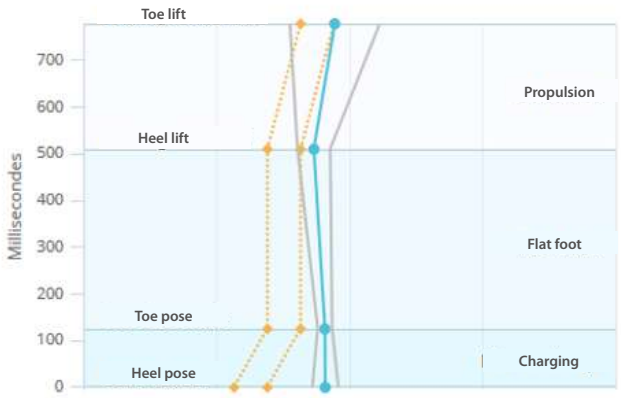
For this patient, what information did you collect using DigitsolePro?



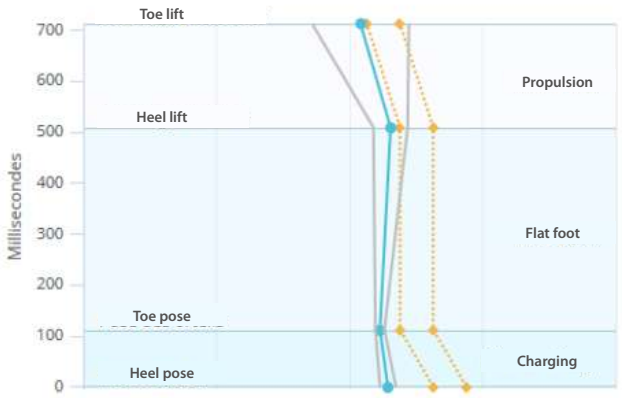


- The gait line allows us to quickly see how the step rolls and the associated contact times. The patient's foot, whether left or right, pronates. We also note that the contact times are greater on the left, the foot that is the most deformed.

Left step



Right step



- The ankle roll is used to obtain the precise angles of deformation. In this case, it allowed me to make corrections under the heel, as I had not identified this need during the examinations that I had done before.

What examinations did you have to carry out to complete the DigitsolePro analysis? What information did you obtain?

- I carried out the standard examinations that I typically do, a questionnaire and an examination seated in a chair, stationary and standing on one foot.

- Upon questioning, we learned that the patient runs regularly, and for several months he has been experiencing from pain in the external face of the knee, which appeared progressively and eventually on both sides.

In a stationary exam, he has very few deformations, the calcaneus is centred, and we note an increasing collapse of the weaker bilateral midfoot.

When observing the patient standing on one foot with the knee bent, we observe a pronation in the foot, and a knee that angles toward the inside.

- I also carried out a dynamic test and video sequences.
Here we see a pronation of both feet, a genu valgum.

What diagnosis was made?

- Iliotibial band syndrome is due in this case to a pronation of the foot that occurs dynamically and is accentuated by running as there is more weight on each support.

This pronation consequently provokes a genu valgum combined with an internal rotation of the knee. The ITBS limits the internal rotation of the knee, it experiences excessive traction and inflammation occurs.

What treatment or solution have you provided the patient with?

I made thermoformed soles with compressible materials, but with a high density, to be used for running.

The left sole has more correction in the heel internally than the right, as well as arch support and finally under and over the first metatarsal heads.

Digitsole Pro, an international Establishment

ISO 27001 : 2017

International standard for information security. It's a requirement for establishing, implementing, maintaining and continually improving an information security management system (ISMS) –We make the information assets we hold more secure.

ISO 13485 : 2016

Regulatory requirements are increasingly stringent throughout every step of a product's life cycle, including service and delivery. Increasingly, organizations in the industry are expected to demonstrate their quality management processes and ensure best practice in everything they do. This internationally agreed standard sets out the requirements for a quality management system specific to the medical devices industry.

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