DIGITSOLE® PRO

Case Study

Diagnosis and treatment of an adolescent with a valgus using DigitsolePro

DigitsolePro.com

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

The patient is a 12-year-old athletic adolescent who practices swimming and athletics.

He made an appointment with the podiatrist to renew his soles, adapted for a foot valgus, that he has had for 4 years.

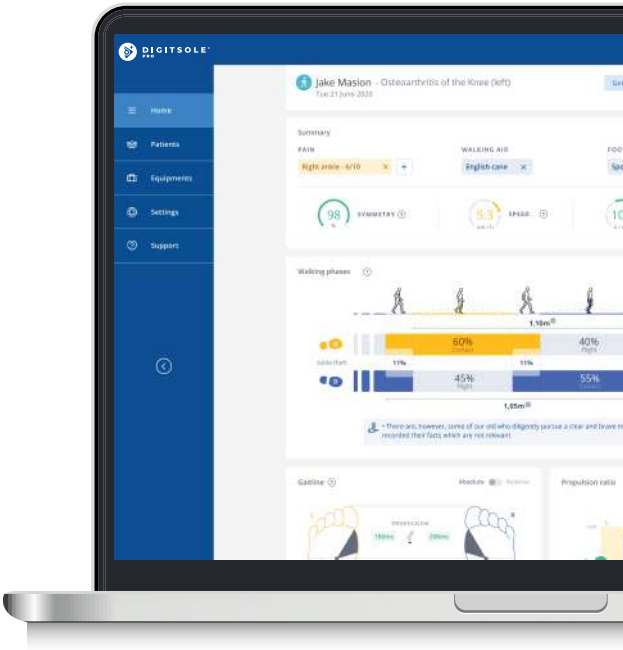
How do you use DigitsolePro in your daily activity?

Fabrice Millet uses DigitsolePro for the dynamic analysis (walking or running depending on the patient).

He collects data on the patient's walking or running activity using the web interface available online at https://app.DigitsolePro.com.
The results are then presented to the patient, allowing the patient to integrate them into the treatment process and facilitating acceptance.

Do you use other movement analysis systems?

Fabrice Millet uses a camera to analyse the activity of athletes and movement analysis 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.

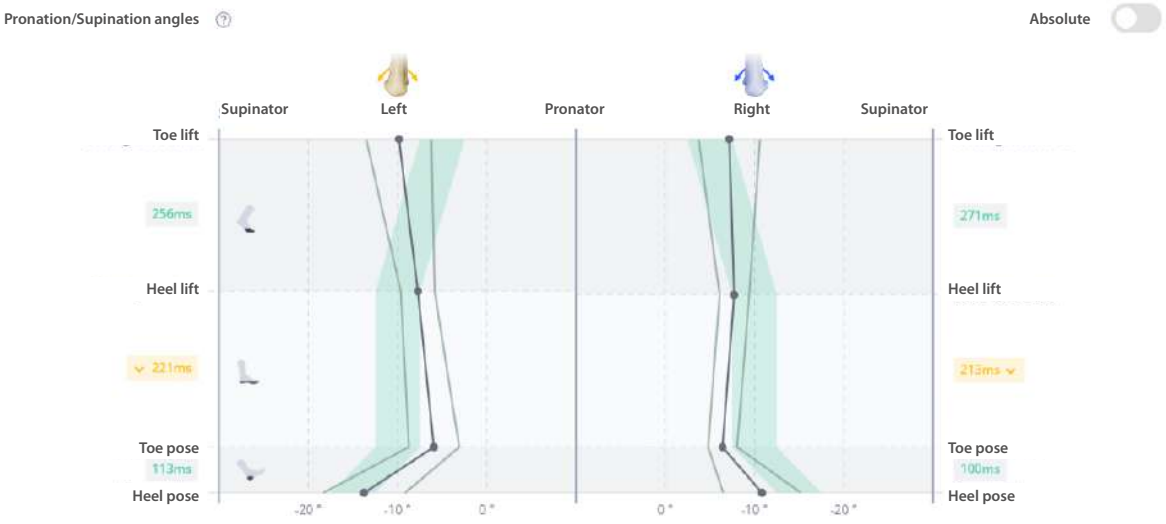
The swing phase

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.).

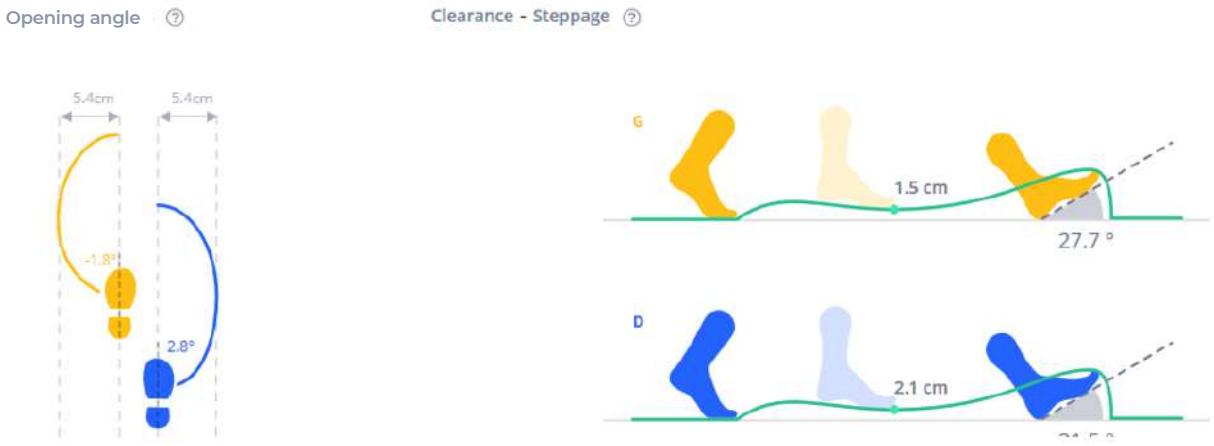
The ankle roll

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.

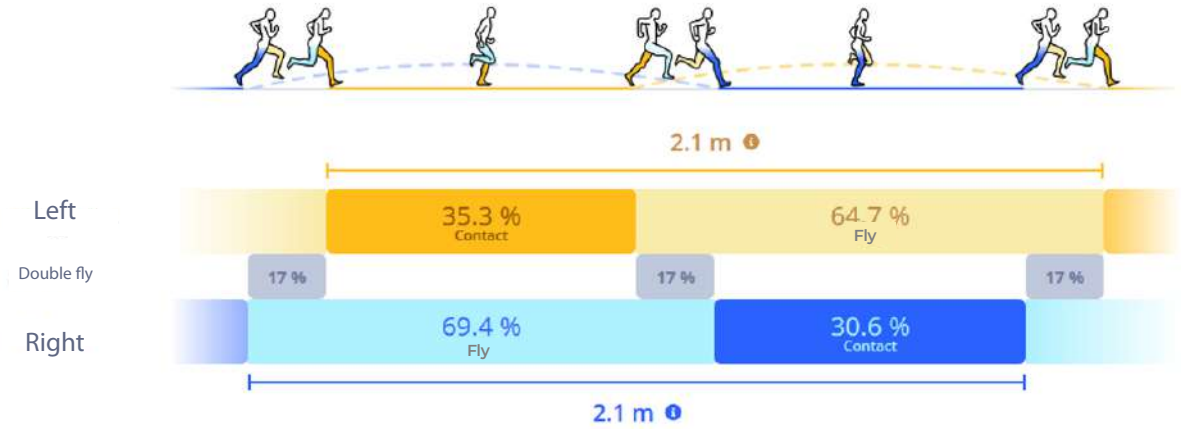
For this patient, what information was collected using DigitsolePro?



We observed that the strike is roughly within the norms, and then there is a very quick collapse of the hindfoot. Then, the foot moves in supination, which can be explained by the fact that the patient corrects his gait.



The left foot is closed, which translates to a valgus of the foot, slightly less pronounced on the right. The strike angle is sharper on the left, which indicates that the step is more controlled on the left.



When running, there is higher contact time on the left, which is due to the fact that the left foot is more deformed.

The amplitude between the strike angle and the propulsion angle is more significant on the left, even if the strike angle is greater on the left. This can be explained by the fact that the patient tries to correct himself when he places his heel or because the deviation is primarily in the midfoot.

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

Fabrice Millet carried out his examinations in a conventional manner: questioning and examination while seated on a chair, examination standing and on one foot.

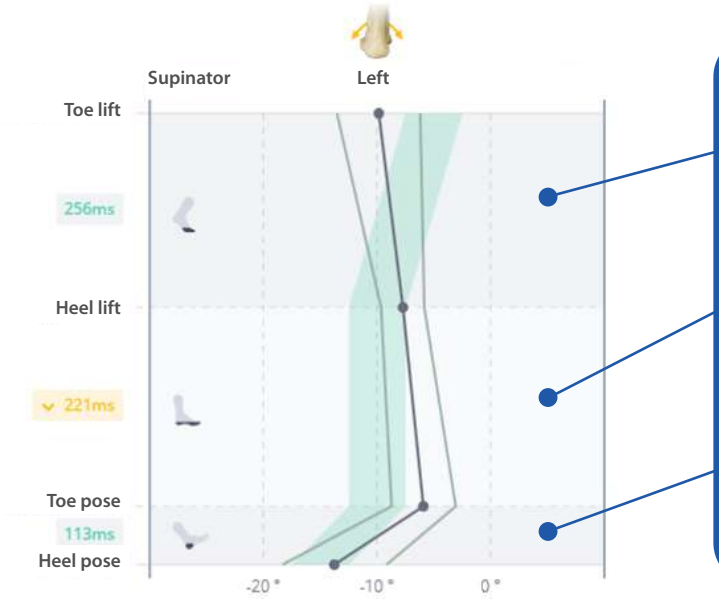
• During the questioning, we learned that he was a child who had a tendency to fall by placing one foot on the other. When he was younger, he suffered from pain in the tuberosity of the posterior hamstring.
• Standing, we observe a severe valgus of the midfoot and a slight valgus of the hindfoot, combined with a genu valgum.
• Standing on one foot, the pronation is confirmed.

What diagnosis was made?

Les douleurs ainsi que les chutes sont dues à la déviation du pied en valgus.

What treatment or solution have you provided the patient with?

The podiatrist made thermoformed soles with high-density compressible material, and non-compressible under the heel. He positioned a PSW, as well as an arch support and piece under and over the first radius.



Piece under and over the first radius to provide support to the first radius

Support the posterior arch to counter the midfoot valgus and have an effect on the calcaneus.
Reinforce the exterior of the sole (sub-styloid) to prevent any supinator gait compensation

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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