

## **BÜHLMANN Laboratories AG**

Founded in 1976

Headquarters in Schönenbuch, BL

Branches in Germany, Italy, France,

Austria, USA, Canada and Brazil

Approx. 100 employees,

15 new positions through IBDoc®



**SWISS MEDTECH**

**BÜHLMANN Laboratories AG has developed a smart-phone-based rapid test. For the first time, patients with chronic bowel disease can take their own measurements at home. They can efficiently monitor any inflammation and discuss therapy with their doctor accordingly. Costs for unnecessary treatments and endoscopies can also be saved. «IBDoc®» is currently used by 2,000 people world-wide.**

# Laboratory tests brought home to the patient



„Chronic inflammatory bowel disease, CED, can be extremely painful, with bouts of abdominal cramps and fever, diarrhoea and blood in the stool,“ explains Dr. Christian Reinhard, Product Manager at BÜHLMANN Laboratories AG. This autoimmune disease is mainly diagnosed in people under 30 years of age and can return unexpectedly many times during an individual's lifetime. It is therefore important to recognize the signs early in order to prevent recurrence.

### **Symptom free for as long as possible**

This is where the calcium-binding protein called calprotectin comes

into play. It is detected in high concentrations in the stool during acute and chronic inflammation, and acts as an important biomarker for the diagnosis, confirmation and monitoring of the disease. „CED cannot be cured, but it can be treated. The goal is to achieve a symptom-free state for the patient as long as possible,“ says Dr. Jakob Weber, Head of Technology & Innovation at BÜHLMANN. The inflammation should be monitored regularly for calprotectin to ensure that the course of the disease is improving and medication is dosed appropriately.

### **Results in only 15 minutes**

In the past, one major disadvantage was that patients had to bring their stool sample to the lab or doctor for analysis and, depending on the country, sometimes wait for weeks to get the results. Having worked with calprotectin for many years, BÜHLMANN recognized early on the growing need for a pragmatic solution and initiated the development of a rapid test for home applications. IBDoc® delivers information regarding intestinal inflammation within 15 minutes. One application includes a stool collection paper, an extraction tube and a test cassette. The test strip changes colour depending



Jakob Weber, Head of Technologie & Innovation (left) and Christian Reinhard, Product Manager, BÜHLMANN Laboratories.

on the calprotectin content of the stool sample. The patient photographs this with his smartphone and the result is sent automatically to BÜHLMANN's web server. The patient's Health Care Professional is informed by mail, can access the data with a password and prescribe preventive measures if necessary.

### **Breakthrough with the new combined solution**

Combining the various components produced the real breakthrough. BÜHLMANN spent two years developing the extraction tube and was supported financially by the CTI (now Innosuisse) as part of a federal stimulus program. Two patented innovations are involved in the method: the tight seal and a valve for precise dosage of the

stool extract. A special app - developed together with a third-party company and protected by trademark - converts the smartphone camera into reader and guides it correctly.

### **User-friendly and accurate**

According to Weber and Reinhard, user-friendliness is the main focus for the IBDoc®. Patients obtain detailed instructions via app and video, and also receive training. According to various usability studies, the test which is prescribed around four times a year is easy to carry out and patients especially appreciate the convenience of being at home. It also performs extremely well in direct comparison to conventional laboratory methods. The results correspond 80%-90% of the time. According

to a clinical study from England, patients who showed calprotectin levels below 100 µg / g with IBDoc® remained symptom free (with 88% probability) for the following four months.

### **User count doubles annually**

The self-test with an «in vitro diagnostic» CE marking has been certified in the EU since March 2015 and was approved in Canada as a Risk Class III medical device in April 2017. The product is now used by more than 2,000 patients throughout Europe and overseas, and is integrated in various tele-monitoring treatment concepts. Since then, the number of users has doubled annually. It's estimated that 50% of the 5 million CED patients worldwide are potential IBDoc® users. Initial published data also shows that using the home test significantly reduces costs such as unnecessary doctor visits and endoscopy procedures. A study in England with 130 patients showed potential savings of approximately € 1,000 per patient per year. Complex CED treatments and expensive medicines consume further tens of thousands of francs each year. Christian Reinhard and Jakob Weber also see tremendous potential for savings – thanks to closer monitoring with IBDoc®.

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