

▶ NEW



HemoPill®

Immediate detection of acute bleeding in the oesophagus,
stomach and small intestine



HemoPill® is a new product line for the immediate detection of acute bleeding in the oesophagus, stomach and small intestine. HemoPill® acute is a swallowable sensor capsule that wirelessly sends measured values to a portable receiver (HemoPill® Receiver).

..... HemoPill®

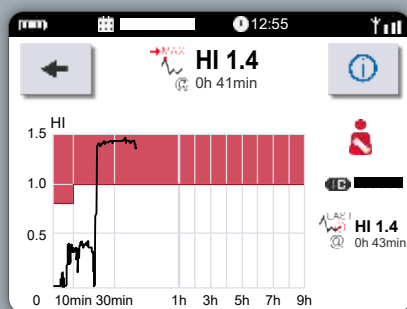
Capsule with innovative sensor technology

- Quick and easy assessment of findings when acute GI bleeding is suspected, e.g. in an emergency or with geriatric patients
- Allows rapid prioritisation of endoscopy procedures on patients in the clinical daily routine or even outside of regular working hours
- Does not require patient preparation and can be used immediately if bleeding is suspected
- Different areas of applications (e.g. endoscopy, emergency room or ICU)
- Integrated microsensor with photometric measuring method for blood detection
- Detection of blood even in small volumes in the lumen
- Safe telemetric data transmission in real time for immediate assessment of findings

..... Application

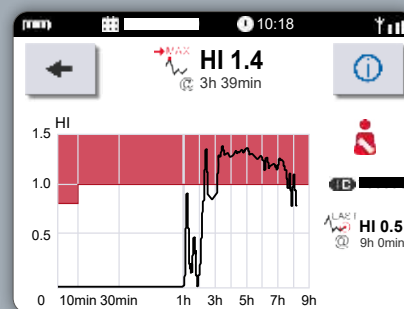
Positive HemoPill® finding

Indication for immediate endoscopy and treatment



Acute bleeding in the stomach

20 minutes after swallowing the HemoPill® acute, a significant increase in the HI value was observed. This indicated acute bleeding in the upper digestive tract. The examination using the HemoPill® was completed after 43 minutes and a gastroscopy was performed immediately. This showed a bleeding angiodysplasia in a gastrojejunal anastomosis, which was successfully treated.



Bleeding in the small intestine

The significant increase in the HI value after 2.5 hours was an indication of bleeding in the middle digestive tract. The examination took a total of 9 hours. A subsequent targeted double balloon enteroscopy showed angiodysplasia in the small intestine, which was treated successfully.

Use of the HemoPill® acute in the early clinical phase (July 2019–September 2020).

Source: Prof. Dr. Arthur R. Schmidt & Dr. Armin Kuellmer, Medical Center – University of Freiburg, Germany/Prof. Dr. Juergen Hochberger & Dr. Thomas Brunk, Vivantes Clinic in Friedrichshain, Germany

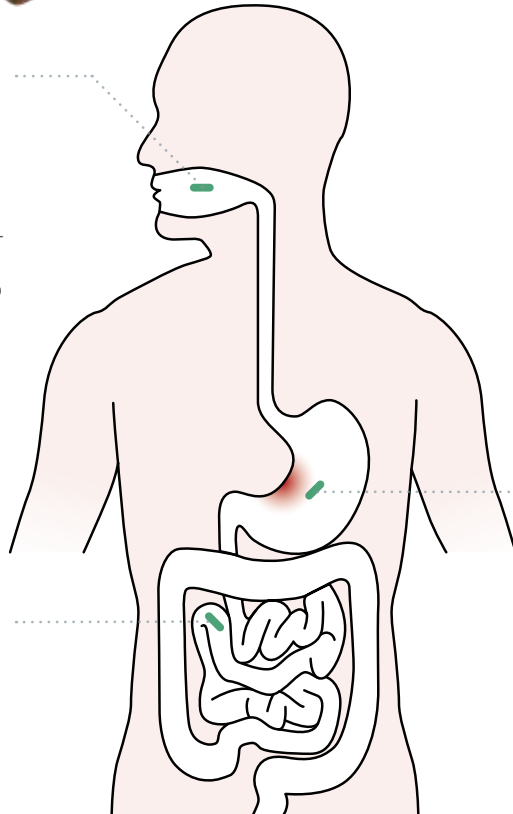
**HEMOPILL®
ACUTE**



After the connection between the HemoPill® acute and HemoPill® Receiver is established, the patient swallows the HemoPill® acute.

After swallowing, the sensor capsule is transported by peristalsis and transmits measured values to the HemoPill® Receiver every 4 seconds.

The maximum measurement duration is 9 hours. This allows the upper and middle digestive tract to be examined for blood.



**HEMOPILL®
RECEIVER**

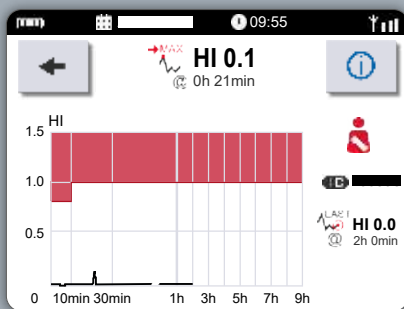


Using the HemoPill® Indicator (HI value), which is shown on the HemoPill® Receiver, acute bleeding is detected immediately during the examination.

A positive result (displayed in the red area of the diagram) means that liquid blood (or haematin) has been detected.

Negative HemoPill® finding

Postponing or avoiding emergency endoscopy

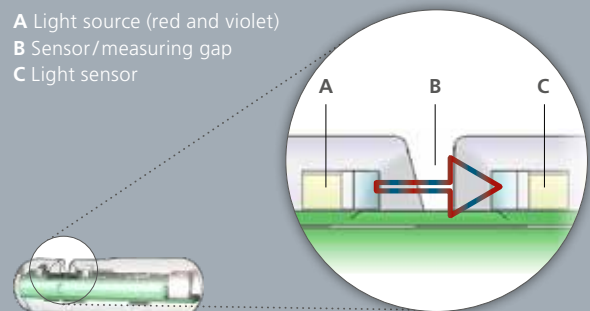


Excluding upper GI bleeding

No increase in the HI value was observed after the capsule was swallowed. Further differential diagnostics identified an aortic dissection as the cause of the anaemia detected in the emergency room. This meant that the patient did not need to undergo an endoscopy.

Sensor principle

- A Light source (red and violet)
- B Sensor/measuring gap
- C Light sensor



The HemoPill® acute capsule has a measuring gap that is supplied alternately with red and violet light. Depending on the medium in the measuring gap (e.g. blood, gastric juice), the light beam is absorbed to varying degrees. If blood is detected, this results in a high HI value, i.e. $HI \geq 0.8$ within 10 minutes or $HI \geq 1.0$ from 10 minutes after swallowing.

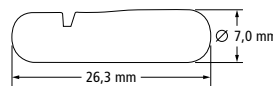
Details and components

The product line consists of a sensor capsule and a portable receiver for immediate detection of acute bleeding in the oesophagus, stomach and small intestine.



Small, swallowable capsule with optical sensor

- Blood detection by direct measurement of blood in the sensor gap, even in an unprepared digestive tract
- Wireless transmission of measured values to the HemoPill® Receiver
- Maximum measuring time: 9 hours
- Length: 26.3 mm; max. diameter: 7.0 mm
- Sterile single-use product



Ref. no. 500.01



Portable receiver for displaying and storing measured values from the HemoPill® acute

- Measured values displayed in real time
- Colour display & touchscreen
- User-friendly handling with integrated battery
- Easy data access with straightforward menu navigation



Ref. no. 500.20

Accessories

HemoPill® Printer

Thermal printer for printing findings

- Connection via USB port
- Print quality maintained for up to 25 years with special thermosensitive paper



Ref. no. 500.30

Not for sale in the U.S.A. yet.

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