

THE EVOLVING STATE OF HEALTHCARE

Constant change and increased complexity requires comprehensive solutions to address today's challenges:



TIME MANAGEMENT



PRESSURE INJURIES



CAREGIVER INJURIES



PAPERWORK



NURSE SHORTAGE

THE EVOLVING STATE OF HEALTHCARE



Nurses reported a

50% time saving^{5, 6}

after the introduction of a multidisciplinary interoperable information system with EHR and event tracking compared with an existing paper-based system



The prevalence of Pressure Injury in Europe is

10.8%¹

The cost of Pressure Injury
Worldwide across different
care settings per patient is

1.71 €/Day to
470.49 €/Day⁷



The prevalence of Musculoskeletal disorders of workers in human health and social work activities in Europe (in the last 12 months) is

47%² for nurses who experienced back pain

46%² for nurses who experienced upper limb pain



The time spent per nurse to document and complete forms at the bedside is

4 hours/day 4



The nurse shortage in Europe in 2013 was

1,6 million³ and the projection by 2030 is

4,1 million³

WITH BAXTER SURFACES, YOU CAN TREAT YOUR PATIENTS WITH CONFIDENCE, KNOWING YOU HAVE THE SPECIALISED SOLUTIONS YOU NEED TO:



SUPPORT PATIENT SAFETY AND COMFORT

Choose surfaces designed for comfort that are ready to support specialised therapies if complications arise.



REDUCE CLINICAL BURDEN AND IMPROVE EFFICIENCY 8

Support your busy staff by helping to avoid time-consuming, costly transfers, and searches for specialised equipment.



STAY CONNECTED

Tap into the smart connectivity you need to stay informed on patient and surface status – so you can react to patient needs faster.

SYNTHETO - PRESSURE RELIEF SURFACE SMART AND FLEXIBLE HYBRID SURFACE

Provide the care each patient needs — and be ready to adapt at a moment's notice. The **Syntheto** hybrid pressure relief surface offers the comfort of foam with the therapeutic advantages of air when it's required.

NOT YOUR AVERAGE HOSPITAL BED MATTRESS: THE SYNTHETO HYBRID SURFACE DOES MORE, SO, YOU CAN TOO

Designed for all Med-Surg patients, the **Syntheto** hybrid surface is designed to help streamline clinical workflows, impact the patient experience and share timely data — where and when you need it.







Assist in Prevention and Treatment of Pressure Injuries^{9,10,11,12,13,14}



Prevent Caregiver Injuries⁸



Contact-free, Continuously monitor Heart & Respiratory rates



Alert on Patient Exit

SYNTHETO SMART AND FLEXIBLE HYBRID SURFACE

At a touch of a button

Efficient Hybrid system

- Foam & Alternating Pressure
- Vacuum effect for alternating pressure cycle efficacy

Microclimate Management

 Effectively remove heat and moisture from the patient's skin

Integrated blower

- Reactivity & Efficiency
- Space optimization
- Cleaning Efficiency
- Noise suppression



Lateral turn modes:

Patient Mobilization

- Support caregivers by reducing strain and effort required to mobilize/turn patient
- Increase turn engagement

Pressure Ulcer Relief

 Offload pressure on the sacral region of the patient without the use of pillows/positioning devices

Heart & Respiratory Rate optional

Contact-Free, Continuous Monitoring

Connectable

- Communicate status of the surface to the EMR/Dashboard
- · Send turn reminders and in-room alerts



THERAPY2 - PRESSURE CARE SURFACE PREMIUM SMART SURFACE FOR VULNERABLE PATIENTS

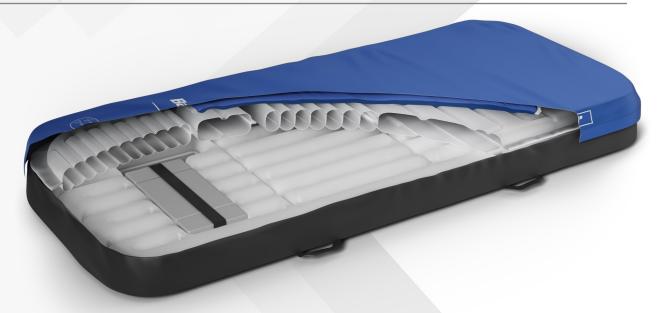
The **Therapy2** pressure care surface is a standalone full air surface designed to manage your vulnerable patients.

With support for pulmonary therapy protocols, advanced skin protection therapy modes and more, the **Therapy2** surface is specially equipped to help in the prevention of common complications associated with immobility.

MEET AN AIR PRESSURE MATTRESS DESIGNED FOR TODAY'S HEALTHCARE ORGANISATIONS

The **Therapy2** therapeutic surface has integrated pulmonary, pressure ulcer prevention and prone features designed with critical patient in mind. It is ideally suited for ICU and stepdown environments.







Assist in prevention and treatment of pulmonary complications associated with immobility^{15,16,17,18}



Prevent Caregiver Injuries⁸



Contact-free, Continuously monitor Heart & Respiratory rates



Alert on Patient Exit

THERAPY2

PREMIUM SMART SURFACE FOR YOUR VULNERABLE PATIENTS

Key Features & Functions

Pressure Relief

- Continuous & Alternating Low Pressure
- I-mmersion sensor for pressure auto-adjustment

Microclimate Management

 Effectively remove heat and moisture from the patient's skin

Integrated blower

- Space optimization
- Cleaning Efficiency
- Noise suppression

Heart & Respiratory Rate optional

Contact-Free, Continuous Monitoring



Lateral turn modes:

Patient Mobilization

- Support caregivers by reducing strain and effort required to mobilize/turn patient
- · Increase turn engagement

Pressure Ulcer Relief

 Offload pressure on the sacral region of the patient without the use of pillows/positioning devices

Continuous Lateral Rotation

Programmable pulmonary therapy to reduce complications associated with immobility

Prone Position Management

 Customised pressure relief for the patient in prone position without the use of additional accessories on the surface

Connectable

- Communicate status of the surface to the EMR/Dashboard
- Send turn reminders and in-room alerts



USER INTERFACE

The **Syntheto** is provided with a button control pendant.

The **Syntheto** with turning features or heart and respiratory rates monitoring as well as the **Therapy2** are provided with a touch sensitive control pendant.





SURFACE INFLATION

MODES

Specific icons are dedicated either to **Syntheto** or to **Therapy2**.

During inflation mode it is possible to adjust the pressure of the bladders for comfort purpose.



ALTERNATING PRESSURE AT THE TOUCH OF A BUTTON

A pressure injury can develop in less than one hour ¹⁹

QUICKLY SWITCH FROM THE COMFORT OF THE FOAM TO THE THERAPEUTIC ADVANTAGES OF AIR



Alternating Pressure (Active)

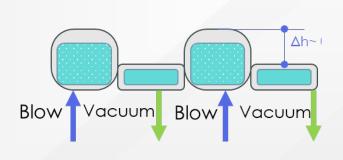


Foam (Passive)

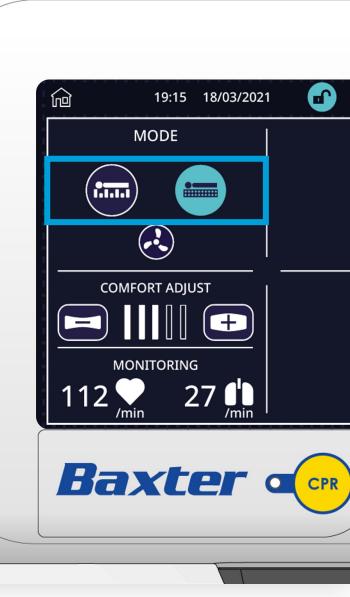
ALTERNATING PRESSURE & VACUUM TECHNOLOGY

The 11 minutes cycle of the alternating pressure uses a vacuum technology to increase the delta between the top of the inflated and deflated bladders to maximise off-load on the full cycle and minimize the pressure peaks.

The pressure mappings are equivalent to a full air therapeutic surface.









INFLATION MODES

A real-time pressure adjustment is controlled by the internal **I-mmersion** sensor, adjusting cushion pressures according to patient size, shape, weight or position in the bed without caregiver intervention.



Alternating Low Pressure

10 minutes cycle



Continuous Low Pressure



Pmax

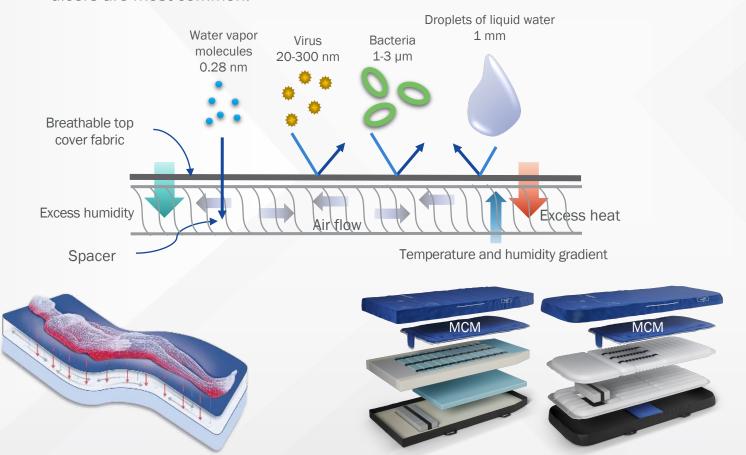
Maximum pressure for easier patient mobilization

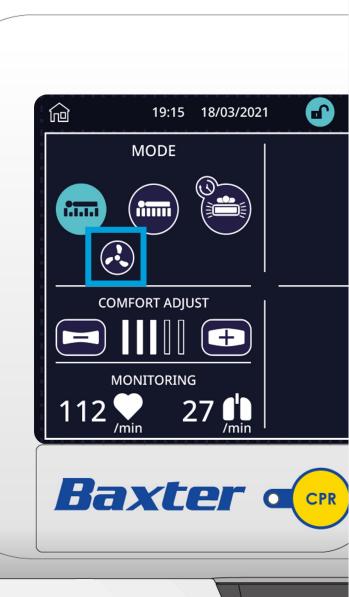


MICROCLIMATE MANAGEMENT TECHNOLOGY



The **Microclimate** management is proven to effectively remove excess heat and moisture from patient's skin, especially through the sacral area, where pressure ulcers are most common.^{20,21,22,23}







POSITIONING MODE

Syntheto & Therapy2



Mobilization mode



Pressure Ulcer mode

Therapy2 only



Pulmonary mode



Prone mode



POSITIONING MODE

SAFETY CHECK

Before any positioning mode use, a check on patient safety is required.





Mobilization mode



Pressure Ulcer mode





Pulmonary mode



Prone mode





MOBILIZATION MODE

In 2013, the World Health Organization's estimated that the overall shortage of Health Care Workers was 1.6 MILLION IN EUROPE. A shortage of $4.1\ MILLION$ is projected by 2030^3

Feature achievement target:

Assist the staff in their daily tasks:

- Reduce caregiver injuries & optimize workflows
- Encourage patient turns and respect turning protocols

Claim:

36%

Reduction in effort required to turn patient with Mobilization Mode.⁸



MOBILIZATION MODE

The intent is to turn the full body of the patient (ie. change sheets).

The full length of the lateral cushion is inflated to mobilize the sternum and pelvis; feature also called "Turn Assist".



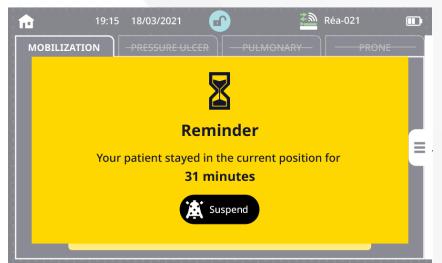
To activate the turn:

- Choose the side to turn the patient
- Long press on the button to inflate the lateral cushion
- As soon as the finger is removed, the inflation is stopped, and the cushion remains inflated.
- To go back flat, single press the central «flat» button.
- A timer automatically starts at the beginning of the inflation.





MOBILIZATION MODE



The **Time** spent on position is **30 min** maximum recommended.

An alert appears when the maximum recommended time is exceeded:

- Audible alert: two beeps every 15/20 seconds.
- Visible alert: recurring Yellow Pop-Up every 30 min & Yellow time exceeded reminder on home screen.

The surface does not go back flat automatically after 30 minutes.

During the mobilization mode, while side cushion is inflated, the Alternating mode is disabled.

Angle:

For a patient <140kg, in less than 35 seconds, the Mobilization mode can achieve at least²⁶:

- 30° angle at the sternum.
- 20° at the pelvis section.

This mode cannot be automated – 1 time action

The patient weight does not have to be specified for this mode





10,8%

Prevalence of pressure ulcers in Europe.¹

Feature achievement target:

- Provide a better sacral pressure relief by replacing the pillows commonly used.
- Improve workflow by proposing an automated mode to avoid staff to turn the patient on one side and the other.

Claim:

REDUCE INTERFACE PRESSURE IN THE SACRAL AREA BY AN AVERAGE OF 14%

with Pressure Ulcer Relief Mode on **Syntheto** and **Therapy 2** Surfaces, compared to using traditional pillows.²⁴





The intent is to turn the upper part of the patient body for better sacral offload.

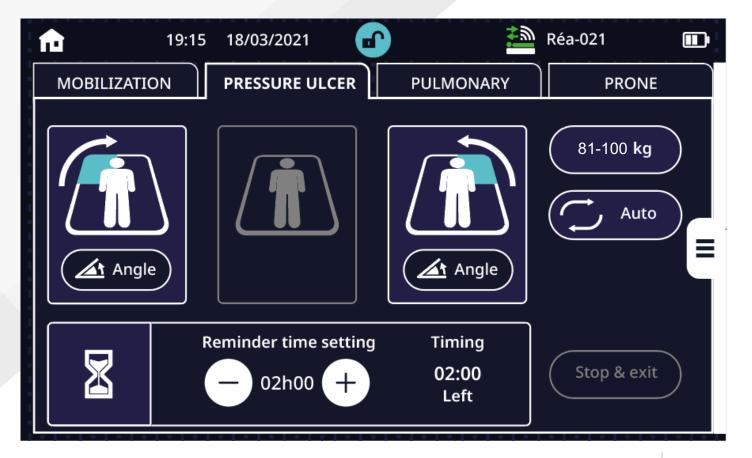
Only the upper part of the lateral cushion is inflated to mobilize the shoulder of the patient and offload the sacrum.

The first step is to specify the patient's weight



To activate the turn manually:

- Choose the side to turn the patient
- Select the angle you want to reach for your patient (Light/Medium/Max) Inflation automatically starts.
- A 2-hour timer (default) automatically starts at as the bladder starts inflating.
- To go back to the flat position, press the central «flat» button.















02:29 Left

Timing

Skin integrity - Time > 2h

The **Time** spent on position is **2 hours** maximum recommended.

The reminder time setting can be adjusted between 30 minutes and 4 hours.

For skin integrity, a yellow indication appears to highlight that 2 hours are exceeded.

An alert appears when the maximum recommended time is exceeded:

- Audible alert: two beeps every 15/20 seconds.
- Visible alert: recurring Yellow Pop-Up every 2 hours min & Yellow time exceeded reminder on home screen.

The surface does not automatically go back flat after a dedicated time in manual mode

During the pressure ulcer mode, while side cushion is inflated, the Alternating mode can remain active.



Reminder

Your patient stayed in the current position for **2:01 hours**

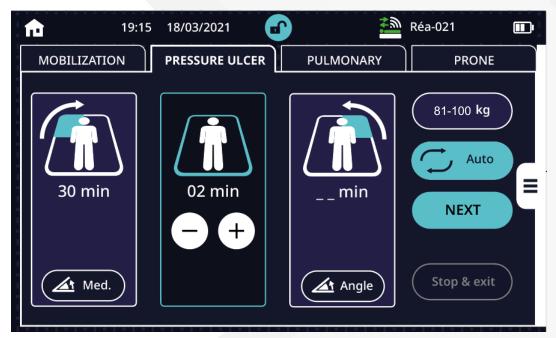


Angle:

For a patient <140kg, in less than 35 seconds, the Pressure Ulcer mode can achieve at the sternum section at least²⁶:

- **20°** (Low angle); +5/-6°
- 25° (Medium angle); +10/-6°
- 30° (Maximum angle); $+/-10^{\circ}$





Automated mode:



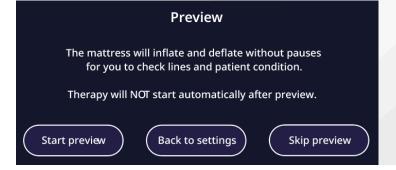
This mode launches rotation cycles:

- Left turn -> Flat -> Right turn -> Flat -> ...
- Left turn -> Flat -> ... (left side only)
- Right turn -> Flat -> ... (right side only)

The time stay on each position can be set from 2 minutes to 2 hours.

The cycle does not stop automatically.

There is no reminder in automated mode.



A **preview mode** can be used to verify angles and ensure patient safety. It shows a full cycle with no stay in each position.





Feature achievement target:

The intent is to provide an alternative to CLRT (Continuous Lateral Rotation Therapy) practice by replacing the pillows commonly used. CLRT helps in removing the weight of organs on the lungs, lowering down the diaphragm and mobilizing the mucus to help the back of the lungs being more efficient with gas exchanges.

Improve workflow by proposing an automated mode to avoid staff turning the patient on one side and the other.

Claim:

Therapy2 assists in the prevention and treatment of pulmonary complications associated with patient immobility^{15,16,17,18}





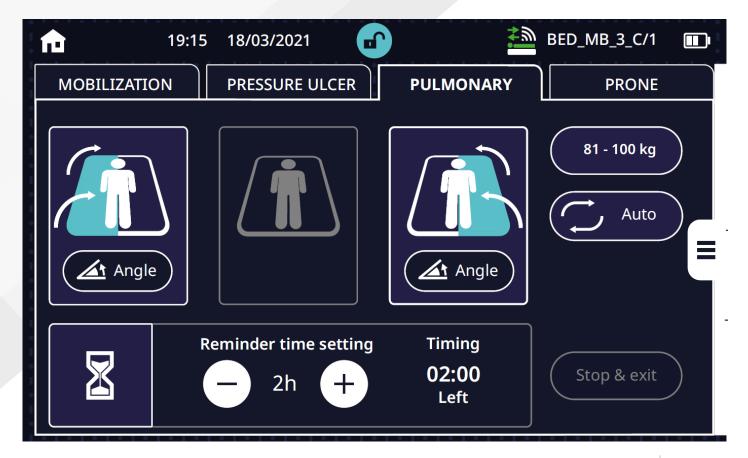
The intent is to put the patient in a lung over lung position in order to secrete the lung to prevent pulmonary complications associated with immobility. All the length of the lateral cushion is inflated to mobilize the shoulder and Pelvis of the patient in order to laterally move the full chest.

The first step is to specify the patient's weight



To activate the turn manually:

- Choose the side to turn the patient
- Select the angle you want to reach for your patient (Light/Medium/Max) Inflation automatically starts.
- A 2 hours timer (default) automatically starts at the beginning of the inflation.
- To go back flat, single press the central «flat» button.









Reminder time setting Timing 02:00 02h00 + Left

Reminder time setting Timing 02:29 Left Skin integrity - Time > 2h

The **Time** spent on position is **2 hours** maximum recommended.

The reminder time setting can be adjusted between 30 minutes and 4 hours.

For skin integrity, a yellow indication appears to highlight that 2 hours are exceeded.

An alert appears when the maximum recommended time is exceeded:

- Audible alert: two beeps every 15/20 seconds.
- Visible alert: recurring Yellow Pop-Up every 2 hours min & Yellow time exceeded reminder on home screen.

The surface does not automatically go back flat after a dedicated time in manual mode

During the pulmonary mode, while side cushion is inflated, the Alternating mode is disabled.



Reminder

Your patient stayed in the current position for **2:01 hours**

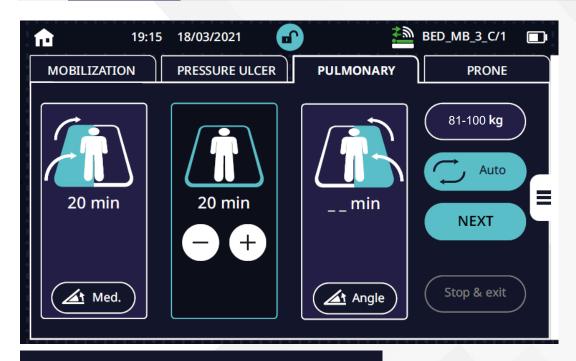


Angle:

For a patient <140kg, in less than 35 seconds, the Pulmonary mode can achieve at the sternum section at least²⁶:

- 30° (Low angle); +7/-5°
- 35° (Medium angle); +10/-5°
- 40° (Maximum angle); +/-10°





Automated mode:



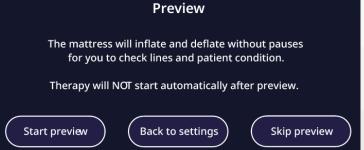
Rotation cycles:

- Left turn -> Flat -> Right turn -> Flat -> ...
- Left turn -> Flat -> ... (left side only)
- Right turn -> Flat -> ... (right side only)

The time stay on each position can be set from 2 minutes to 2 hours.

The cycle does not stop automatically.

There is no reminder in automated mode.



A **preview mode** can be used to verify angles and ensure patient safety. It shows a full cycle with no stay in each position.



PRONE POSITION MODE

Clinical use of prone position increased during Covid-19 and nursing leveraged various tools to support the practice. Opportunities have emerged to provide tools & features to promote best practice when managing prone patients.

Feature achievement target:

Prone positioning the patient helps in removing the weight of organs on the lungs, lowering down the diaphragm and mobilizing the mucus to help the back of the lungs being more efficient with gas exchanges.

While the patient is in prone position, pressure ulcers can develop on the face, shoulders, abdomen and pelvis. This mode will help in preventing skin damage on the body and providing a better comfort for the patient.

Claim:

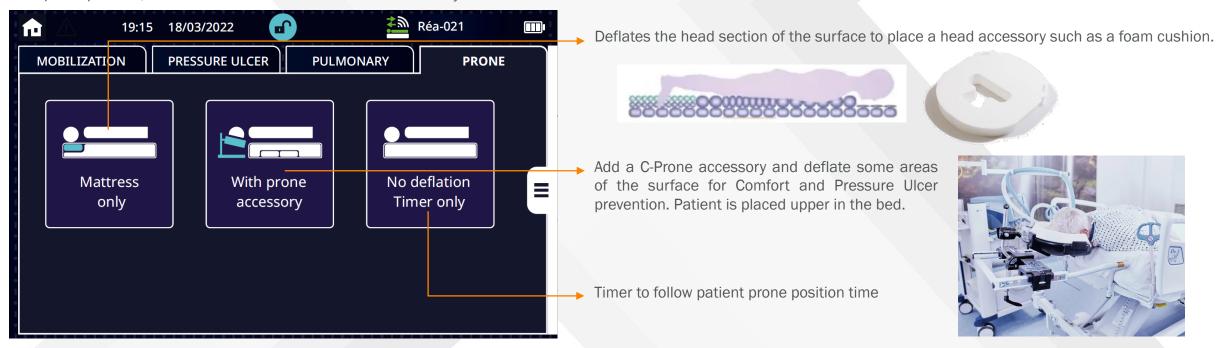
Prone position management features allows caregivers to effectively manage patients in the prone position even during intubation.²⁶



PRONE POSITION MODE

Prone positioning helps decrease the amount of weight and compression of the lungs, allowing more air and improving lung efficiency. This capability helps reduce complications associated with having patients in prone positioning³¹.

For prone position, it is recommended to reverse trend the bed by 10°





PRONE POSITION MODE



« Therapy layer »
« Safety layer »

Prone with accessory

Deflate Chest PRESSURE ULCER

Reminder time setting

10:00 +

PULMONARY

Timing

09:58

Left

Deflate Pelvis

Stop & exit

Activated since: 00:02

Inflate Abdomen

While prone mode is active, the air therapy remains also active (Alternating or continuous low pressure)

The chest and abdomen areas cannot be deflated together for safety reasons



BED EXIT ACCESS & INFORMATION AREA

Access to Patient exit alert

Turn reminders area display

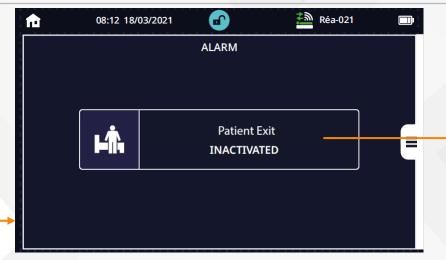




PATIENT EXIT

This feature allows to notify the caregiver when the patient is off the surface.







When the patient exit mode is armed and the patient leaves the surface, the system alerts until the patient is back on the surface.

A suspend mode can be activated by the caregiver to extent the time before the patient comes back on the surface and before the surface alerts again.



When patient exits the surface:

- A visual alert appears:
- · Yellow pop-up
- An audible alert appears:
- · 3 pulse in a salve
- · 2.5 to 4 seconds between salves



CONTACT-FREE CONTINUOUS MONITORING

Heart rate and Respiratory rate are continuously monitored while the patient is lying on the surface.



CONTACT-FREE, CONTINUOUS MONITORING

CFCM is a sensor technology that integrates into the surface and can detect motion of heart and lungs.

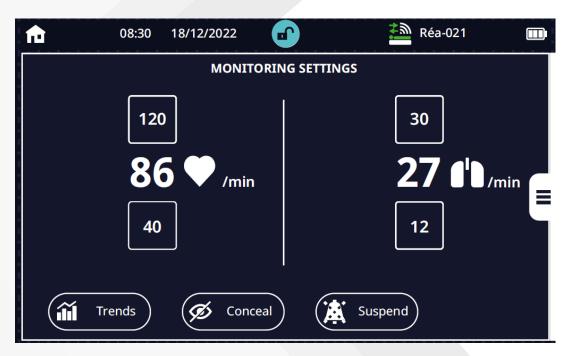


When the heart beats, it creates motion.



When the patient breathes, lung expansion and contraction create motion.

The sensor records heart and respiratory rates twice per second, thereby creating a running trend and triggering an alert whenever in an abnormal range.



Display of Heart Rate and Respiration Rate and high and low thresholds beyond which an alert will be triggered in case of rhythm variation. They are adjusted for each patient.



INTEGRATED INTO THE SURFACE - HOW DOES THAT WORK?

The heart rate and respiratory rate motion sensor is placed in a sleeve under the mattress. While activated and when patient is lying on the surface, heart rate and respiratory rate are captured and recorded in real time.

This feature allows to identify variations of heart rate and respiratory rate.

The alerts of the system are predictive of a patient deterioration³⁰.

It is a second set of eyes complimentary to episodic and continuous vital signs monitors.

Its reactivity does not allow to prevent from stroke or respiratory stop.



A graphic allows to visualize rhythm variations of heart rate and respiratory rate over time. A zoom allows a visibility from the **last 10** minutes to the previous 7 days.



CONNECTIVITY

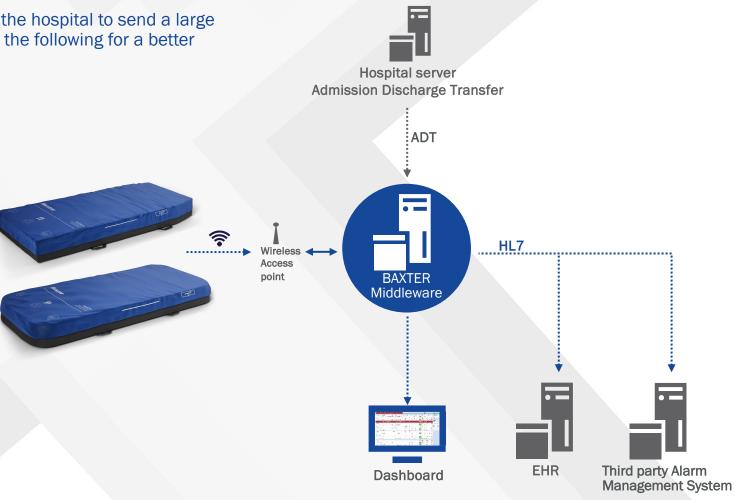
The Surfaces are SMART and allow the caregiver to STAY CONNECTED to be informed on patient and surface status — so that they can react to patient needs faster.



SURFACE CONNECTIVITY

Syntheto and **Therapy2** are using the Wi-Fi access points of the hospital to send a large set of data allowing the caregiver to have a remote access to the following for a better efficiency and protocols continuous improvement.

- Device Location (room)
- Patient identification
- Patient presence
- Inflation Modes (Foam/CLP/AP/ALP/Pmax/MCM)
- Patient Exit Monitoring Mode (Status, Alert, Suspend)
- Mobilization mode (Active time, Angle, Side, remaining time, alert)
- Pressure Ulcer mode (Active time, Angle, Side, remaining time, alert)
- Pulmonary mode (Active time, Angle, Side, remaining time, alert)
- Prone mode (Deflating zone, Active time, remaining time, alert)
- Heart Rate (HR), Respiratory Rate (RR), associated alerts, thresholds
- HR/RR Sensor expiration
- CPR Status
- Power (Charging status, Wi-Fi)
- Error codes
- Maintenance (last and next date)
- Device information





BAXTER CAN SUPPORT

Prevent

Increase turn engagement^{28,29} and provide patient lateral mobilization through the functionalities of our surface.

Observe

Continuously monitor patient Heart Rate and Respiratory Rate to help identify the first signs of patient deterioration³⁰. **Stay connected** to be informed on patient exit, surface mode and reminders, where and when you need it.

React

Immediately switch to a dynamic air therapy surface mode as soon as the patient deteriorates, because a pressure injury can develop in less than one hour¹⁹.

Treat

Use our **advanced skin protection** therapy modes and assist in the treatment of **pulmonary complications** associated with patient's immobility^{15,16,17,18}

Because the proper care begins with the proper surface.

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