BRAUN AIS SYSTEMS

22ND KENYA CRITICAL CARE NURSE ANNUAL SCIENTIFIC CONFERENCE AND 4TH AFRICAN FEDERATION OF CRITICAL CARE NURSE CONFERENCE

Hannington Kimaka

MOMBASA, 3rd to 5th October 2018
Purchase of the Pharmacy in 1839

In 2017: B. Braun a leading worldwide healthcare company
Our guiding principle is “Sharing Expertise”.

• We aim to preserve, acquire and expand knowledge for the healthcare market and share it through dialogue with our partners.

• “Sharing Expertise” rests on three pillars:
  • Innovation
  • Efficiency
  • Sustainability
B. Braun & Infusion Therapy History
Syringe Pump according to Dr. Hesse. The first Infusion pump in the world, developed by B. Braun in collaboration with Dr. Hesse. At a standard rate of 1 ml / min, it was designed to deliver vasodilators.
Infusomat I was the first volumetric infusion pump. It used a roller peristaltic pump as a drive. The speed range was extremely variable - from 7 to 1,000 ml/h.
12 possible settings with adjustable infusion rates between 0.075 and 5 ml/min

Time indicator allows to read off the remaining infusion time

World its first large-volume infusion device. Volumes from 7 to 1000 ml

Air-in-line detector and drop sensor Central alarm system: Near-empty-Alarm
<table>
<thead>
<tr>
<th>Model</th>
<th>Year</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfusor® secura</td>
<td>1982</td>
<td>Novel precision drive</td>
</tr>
<tr>
<td>Infusomat® secura</td>
<td>1982</td>
<td>VTBI can be programmed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Novel finger peristaltic drive</td>
</tr>
<tr>
<td>Infusomat® fm</td>
<td>1992</td>
<td>Rate calculation by <em>Volume and Time</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>World’s first Fluid manager system</td>
</tr>
<tr>
<td>Perfusor® fm</td>
<td>1994</td>
<td>Bolus function</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Memory of prescribed dosage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change of rates w/o flow interruptions</td>
</tr>
<tr>
<td>Perfusor® compact</td>
<td>1997</td>
<td>Small, light-weight, pump for mobile use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Runs up to 8 hours on one battery</td>
</tr>
</tbody>
</table>
Based on over 50 years of experience, the B. Braun Group presented the smallest and lightest infusion pumps in the world in 2004. They contain all the successes and features of previous developments and a whole host of new, progressive ones. Perfusor® Space and Infusomat® Space now set the gold standard of security technology and data communications.
• One pump for all therapies
• Universal user interface
• Hospital wide therapies and applications
  Small and lightweight
• Ideal for patient transport
• Simple, standardised handling
  Freeflow prevention
• Seamless IT integration
Complete medicinal therapy at a glance

Space saving workstation improves workplace ergonomic

Modern equipment promotes staff and patient satisfaction
Intensive Care – Space Glucose Control (SGC)

Simplify your Glucose Management

- Full therapy summary at a glance: parenteral and insulin infusion parameters
- Time to next glucose measurement
- Glucose and insulin history

Space Glucose Control is the first system to offer the benefits of intensive insulin therapy without increasing workload:

- Inbuilt algorithm calculates optimal insulin rate
- Both enteral and parenteral nutrition automatically included in calculation

This decision support tool helps replace best guess decisions with precise calculations using clinically proven software.

Benefit

- Proven prevention of Hyper- and Hypoglycemia episodes
- Contributes to shorter length of stay, with reduced complications
- Decision support for correct insulin dose and next glucose measurement
- Automatic inclusion of nutrition values

Simple, touchscreen user interface

Three steps less complexity

- Reminder alert when next blood sample is required
- Integration of nutrition data and automatic calculation of appropriate insulin rate
- Changes of nutrition results in new calculation of insulin rate

Three steps more safety

- Blood sampling and analysis
- Input of glucose value
- Confirmation of insulin rate

More Information:
Further information can be found in the brochure “In touch with the future: Space Glucose Control” (6529515).
Speak to your local Sales Representative or scan the QR barcode with your smartphone.
Intensive Care – Take Over Mode

Increasing safety during syringe changes

The number of active devices at the patient bedside is continually increasing, and with that, the number of alarms on the ward. Coupled with this is the increased workload for the caregiver.

In this complex and stressful environment, an alarm warning of an empty syringe can often be mislaid. This can lead to a delay before the therapy is continued which can have dangerous consequences in the case of inotropes.

**Benefit**
- **Second Perfusor® Space starts automatically to reduce workload and prevent under infusion**
- **Second Perfusor® Space may be set up at a convenient time**
- **Simplified handling due to automatic rate transfer**

Proactively set up the second infusion at a time which suits the user rather than reactively when the syringe is empty.

Continuous infusion achieved between the two pumps

Clear labeling of both pumps

Take Over Mode automatically starts the second pump as soon as the first is empty — reducing the risk of under infusion without increasing workload.

Automatic drive ensures optimal start up of second pump

Manual starting a second pump risks a delay in therapy.
**Paediatrics and Neonatology**

**Precision and safety**

Because children are not small adults, this field of care has the challenge of requiring high flexibility without compromising on safety, the B. Braun Space system achieves this.

**Benefit**

- High precision and accuracy
- Low flow rates
- Bolus free insertion
- Automatic calculation of weight-related rates
- Drug and area specific hard and soft limits

**Bolus free insertion:**
- Protection against freeflow during syringe change or removal
- Set-based anti-freeflow clamp activates as soon as Infusomat® Space is opened and prevents overdose

- Ensure high precision delivery with syringes in sizes 2/3, 5, 10, 20, 50/60ml
- Dosifix® line for Infusomat® Space
- Minimal flow rates 0.01 ml/h
- Small patient weight 250 g
- Patient-specific concentrations
- Datalock function to protect pump settings
Operating Theatre: TCI

Integrated TCI

Third Generation TCI
B. Braun’s Space system marks the introduction of 3rd generation TCI: simply use any available Space pump as a TCI pump.

**Benefit**
- Third generation TCI not linked to dedicated disposables or pumps
- Reduces equipment shortages
- Increased clinical flexibility
- Choice of algorithms: Propofol: Schneider, Marsh; Remifentanil: Minto

**Greater flexibility** TCI is possible with Infusomat®, reducing the number of syringe changes necessary.

- Increased safety with DoseGuard® dose error reduction software
- Enhanced user control with the possibility of delivering an extra bolus during TCI
- MRI compatible* with no interference or degradation of image quality when used with the SpaceStation MRI

**Predefined therapy schemes save staff time**
To select the right therapy, Space provides a variety of TCI algorithms (Propofol: Schneider, Marsh; Remifentanil: Minto) as well as user profiles (ie. TIVA etc.).

**Anaesthesia record keeping**
Space offers the possibility to not only standardise the equipment in anaesthesia with that of the rest of the hospital but also automatically generate electronic anaesthesia records, when interfaced to an anaesthetic information management system.

*When used with B. Braun SpaceStation MRI
Postoperative Pain Treatment

- Protect your budget by using Space PCA for both IV- and regional analgesia
- Access codes for restricted use of pumps to specific departments
- Special „analgesia screen layout“ to identify the pain service pumps easily
- Database-configurable drug-specific treatment and safety standards
Clinical Nutrition

- Protect your budget by using Infusomat Space also for enteral nutrition.
- Prevent mixup of enteral lines and IV access ports
- Reduce nurse’s workloads and costs with ready-to-use 2 or 3 chamber bags
- End messy dripping of sticky fluids with PrimeStop
Infusomat® Space Lines Integrate ...

Universal Adapter compatible with ready-to-use containers

Infusomat® Space Line Type Enteral Nutrition
With integrated 1000 ml nutrition bag for easy admixture

OMNIFIX® Enteral
- For administration of enteral formulas
- Enteral Drug Delivery
- Compatible only with male connectors (e.g. Inverse Safety Y-port, gastro tubes)
- Color-coded for easier identification
- Same flow rate accuracy as in IV-application

Original Perfusor® Line Type Enteral Nutrition
- Scaled cone adapter for gastro tubes
- Color-coded for easier identification
- Same flow rate accuracy as in IV-application

ENLOCK® (male)
- Incompatible with IV connectors
- Compatible with most funnel tubes and ENLock adapters
- Incompatible with IV connections

Find out more online:
- Either scan the QR code with your smartphone or follow the link to find out more
  www.space.bbraun.com

User Benefits
1. Maximal flexibility with Universal Adapter and integrated nutrition bag
2. Enhanced safety with dedicated enteral nutrition patient connector
3. Integration of EN in a multifunctional system

... Enteral Nutrition into a Universal Pump System

B. Braun Medical Kenya Limited
Onology

- Mobilize your patient by using handy Space pumps
- PVC free Space lines with 3 or 5 injection ports (Safsite ®) for cytostatic drugs
- Eliminate leakages by using “Mini-Spike® Chemo V”

Take advantage from infusing with primary and secondary container
Imaging Environment – Space Station MRI

Safe infusions within the MRI suite

The electromagnetic interference created by the pumps can negatively affect the image quality of the MRI images.

MRI scanners emit strong magnetic fields that attract all ferromagnetic material. This poses a risk for patients and staff and can even damage the MRI equipment. The magnetic field meter, TeslaSpy®, ensures the SpaceStation MRI is always positioned at a safe distance from the magnet without increasing workload.

Benefit

- Allows use of standard pumps in the MRI environment
- Removes the need for unsafe long infusion lines
- No interruption to running infusions
- Passive protection against scan interference

Standard infusion pumps for special applications

The SpaceStation MRI closes this technology gap by allowing staff to work with standard Space infusion pumps in the MRI setting.

Optimal pump positioning: an inbuilt magnetic field meter, the TeslaSpy®, ensures pumps are never brought too close to the MRI magnet

Less need for re-scans: SpaceStation MRI shields the pumps against RF interference and thereby ensures interference-free images

No interruptions: Close positioning of pumps means standard infusion lines can be used and running infusion pumps can simply be inserted into the SpaceStation MRI

Cost Savings with SpaceStation MRI

No dedicated pumps needed: peristaltic MR-compatible pumps cost up to $30,000 each

Lower risk of MRI breakdown: although unlikely, an MRI breakdown caused by ferromagnetic material entering the magnet can cost as much as $100,000

Less costly re-scans: a typical re-scan costs approximately $800

Quicker, effective patient transfer
Specialist Units

Specialised Therapies for Specialist Units

**PCA Benefits**

1. Fast pain relief without increasing nurse workload
2. Therapy status always visible via A/D ratio
3. Protection against accidental or
4. Compatible with any Infusomat® Space or Perfusor® Space

**Patient Controlled Analgesia (PCA)**

DataLock feature developed specifically for PCA.

Text can be customised to meet the requirements of pain services

Prevents unauthorised change of parameters

---

**Bolus modes**

- PCA
- Bolus
- Manual bolus

Ensure sufficient therapy: The A/D (attempts vs deliveries) ratio is automatically calculated.

---

**Ramp and Taper**

Programmable ramp phase to slowly incorporate drug into the therapy and avoid reactions

Plateau for main phase of therapy

Taper phase ensures slow and regular transition

---

**Intermittent/Bolus**

Two-phase therapy allows definition of a standard rate and a bolus rate

Ideal for infusion of antibiotics, cytotoxics or tocolytic drugs

---

**Program/Circadian**

Allows the programming of up to 12 different consecutive rates

For example Intravenous Immunoglobulin

---

Optional syringe protective cap prevents accidental or unauthorised removal of syringe.

---

Benefit Therapy Profiles:

1. Reduced nurse workload
2. Higher standardisation of therapy
3. Reduced medication errors

---
Original Pump Disposables

Flexibility and Accuracy for all B. Braun Pumps

Automated Infusion Systems
One System For the Whole Hospital
NEW PUMP GENERATION COMPACTPLUS

Infusomat® and Perfusor® compactplus

Time to Care

PERFORMANCE

QUICK TO LEARN
FAST STARTUP
HIGH ACCURACY
LI-ION-BATTERY

TECHNICAL SPECIFICATIONS

INTEGRATED POWER SUPPLY
INBUILT HANDLE
ROBUST DESIGN
IP34 FLUID PROTECTION
Usability and Safety

Colour Display

80° viewing angle from all sides
Technical Specifications

Robust Design

One pump is dropped from 75 cm!

Still working!
Technical Specifications

Unique Fluid protection

• **IPX4 Test**

  • *Water splashing* on the pump
  from *any direction*
  for *5 minutes*

• **Still working!**
Thanks you for your attention