



Oncology care for every step of the way
Infusion therapy from Micrel

Freedom without clinical compromise

 **micrel**



The burden of cancer is growing in almost every country.¹ Coupled with ageing populations and spiralling costs of treatment, increasing demands are being placed on health-care budgets.² This is the challenge healthcare professionals (HCPs) and systems are facing.

To reduce the significant disability, suffering and deaths caused by cancer worldwide, effective and affordable programmes in early diagnosis, screening, treatment, and palliative care are needed.³

As a company that specialises in developing advanced technology infusion devices, we are working with HCPs to meet the challenges of cancer care – designing and developing devices that increase the efficiency of infusion delivery and improve patient care.

"We believe there's a better place to treat cancer. Just as telemedicine is dramatically changing how primary care is delivered, much of cancer treatment can be delivered safely, effectively, and less expensively at home."⁴





Challenges within oncology care

Cancer is such a common illness that it has been estimated that more than 1 in 3 people (33%) will develop cancer at some point in their lifetime.^{2,3}

On top of this, it is a very time-intensive and costly disease to treat. Why?

Multiple treatments

Cancer patients may be prescribed many types of cancer treatment. The exact treatment plan they receive will depend on the type of cancer and how advanced it is. While some cancer patients will have only one treatment, most require a combination, such as surgery with chemotherapy and/or radiation therapy.

Additional care needs

Alongside these treatments, patients have further needs to take care of, including managing associated pain with up to 90% of advanced cancer patients requiring pain intervention.⁵

Nutritional support due to malnutrition is also often required, as it can limit a patient's response to even the best therapies if not appropriately managed.⁶

The Micrel infusion range has been designed to address the complex and varied challenges that oncology care presents.

Meeting patients needs with solutions for every step

Micrel's solutions are designed to meet the safety, reliability and comfort that HCPs and oncology patients expect. They ensure established regimens are delivered as prescribed; with the right amount being delivered in the right time.

The portfolio of infusion devices and accessories cover a wide range of infusions that oncology patients may need during their course of treatment and care:

The device range is suitable for a number of infusions including the following:

- intravenous
- intra-arterial
- subcutaneous
- intraperitoneal
- epidural space or subarachnoid space



Micrel offers a large variety of sets, the Full set range and the Spike set range, tailored for different medical applications. Each of our devices feature:

Accurate Delivery

Ensures that patients receive their full prescribed treatments, safely and in the right amount of time.

Optimised ambulatory design

With a complete range of accessories and carrying solutions, enabling patient freedom during treatment.

Intuitive programming

Set up is simple and programme is designed to be easy and very intuitive. The user can program the pump by using the following options

- By selecting and programming an existing (built-in) delivery mode
- By selecting a pre-configured protocol (through the protocol library)*

Reduced nuisance alarm activity

Air elimination filters reduce nuisance alarms without compromising patient safety whilst alarms ensure any interruptions during infusions are signalled.

Remote infusion monitoring

Each device has the optional support of MicrelCare, the web-based care management platform that can help HCPs monitor their patients' infusions remotely and provide further reassurance and information on the infusion status.

* for Rythmic Evolution



Enabling treatment at home

All of these features allow cancer patients to receive some or part of their treatment in the home setting. Patients report feeling more comfortable and can be more active; both of which can aid recovery.⁷



GPRS

Wireless and mobile, automatically updated 24/7



Infusion monitoring

Track volumes infused vs. remaining



Bolus monitoring in cancer pain management

Track bolus requested vs. delivered



Cancer pain activity trends

Provides information for clinical assessment and decision making



Healthcare Network

Individual access to patient treatments from different HCPs



Easy Reporting

Quickly retrieve all-cohort data



Patient History

Compare infusions against patient history

SMS and email alerts

Notify of changes that might need attention. This early notification can enable additional support to be provided. All data is hosted as an independent unit in a highly secure, ISO/IEC 27001 certified data centre, ensuring data is stored and transferred at the highest level of protection available.



A solution for every oncology infusion



When considering which device to use for infusion, there are a number of factors to consider. However the principle consideration should be that the patient receives the right dose at the right time.

Studies have shown that, while elastomeric or balloon pumps are simple to use, performance is often variable, which affects nurse's heavy workload and patients' waiting times.⁸⁻¹⁰

However, Micrel infusion devices are designed with features that deliver high performance and safety, consistently.

Safety and accuracy features:

- High accuracy of delivery: +/-5%
- Alarm signals of infusion issues
- Designed with an air elimination filter to minimize nuisance alarms
- Easy set-up and configuration
- Event log
- Therapy manager in combination with the Rythmic™ Evolution pump can program the device with limits
- Wide range of infusion sets, all equipped with low protein binding filters making them suitable for administering biotherapies.

Pain management

Oncology treatments can cause painful side effects, alongside the pain often associated with the cancer itself. In fact, between 55% and 66% of cancer patients suffer from pain.² This pain can exacerbate feelings of anxiety, depression or hopelessness.² Therefore effective pain relief is an essential component of cancer care.

Micrel Rythmic™ Evolution provides tailored pain relief through a highly ambulatory and responsive device.

Empowers patients

Patients can record their pain scores and request additional pain boluses through the pump, which are recorded and transmitted to HCPs – if used with MicrelCare – to identify pain trends and aid with effective titration.

Safety features

The devices are equipped with a lockable integrated container and with different access codes as part of the programming procedure in order to secure different actions.





Parenteral Nutritional solutions

Research shows that the majority of patients with cancer suffer from nutritional deficits, and up to 85% of patients with certain cancer types experience some form of weight loss and/or malnutrition during their cancer treatment.¹¹

The resulting weight loss and poor nutritional status can negatively impact outcomes, increase likelihood of complications and even disrupt treatments.^{11,12}

So ensuring that a cancer patient is receiving adequate nutrition – especially when enteral nutrition is not an option – is an increasingly urgent challenge in cancer care.

Mini Rythmic™ PN+ is ideal for administering parenteral nutrition. It's accurate and safe, but it's so simple to use, lightweight and truly ambulatory.

Furthermore, the Mini Rythmic™ PN+ provides automatically updated data – including volume infused and infusion line pressure – to HCPs via MicrelCare. This enables therapy monitoring if the HCP and patient choose.



Go forward with confidence

Every aspect of the Micrel range has been considered to ensure they are designed with both patients and healthcare professionals in mind, resulting in truly user-friendly infusion pumps. We also offer support with implementation and online training to help users get the most out of their new device.

Our online training is available in multiple languages and it covers a number of therapies. The online support videos demonstrate how to use the devices in detail. It's an efficient way to supplement ongoing training of healthcare providers and support patients.



micrelmed-elearning.com

Advanced technical support



Repair per case
Our pumps come with a repair per case technical service as standard

3 years*

Preventative maintenance as standard
3 yrs* for Rythmic™ Evolution and 2 yrs** for PN+ and PERF+



Device-specific training
Enabling biomedical engineers to undertake repairs in-house after certification



Technical support helpline
We're on-hand to help whenever you need us



Warranty extension
The standard warranty is 12 months, with an option to extend the warranty for additional peace of mind

* 3 years of 1000 days of operation, whichever comes first.
**2 years or 400 days of operation, whichever comes first

Customer satisfaction

European customers reported being very satisfied with our performance:

- ✓ **Easy to work with**
- ✓ **Implementation management & support**
- ✓ **Knowledgeable sales teams**



Micrel customer perception survey. May 31 2018

1. World Cancer Research Fund. Global Cancer Data by Country [Internet]. 2018 [Accessed 27 June 2019]. Available from: <https://www.wcrf.org/dietandcancer/cancer-trends/data-cancer-frequency-country>.
2. World Health Organization. WHO Guidelines for the Pharmacological and Radiotherapeutic Management of Cancer Pain in Adults and Adolescents. 2018. 3. World Health Organization. Cancer [Internet]. 2019 [Accessed 27 June 2019]. Available from: <https://www.who.int/cancer/en/>. 4. Handley, N & Bekelman, J. STAT [Internet]. Feb 6 2019 [Accessed 29 October 2019]. Available from: <https://www.statnews.com/2019/02/06/cancer-treatment-at-home-safe-effective/>. 5. Stewart J. The Challenges of Cancer Pain Assessment. Ulster Med Journal. 2014;83(1):44-46. 6. Arends J, et al. ESPEN Guidelines on Nutrition in Cancer Patients. Clinical Nutrition. 2017;36(1): 11-48. 7. Tralongo P, et al. Cancer patient-centered home care: a new model for health care in oncology. Therapeutics and Clinical Risk Management. 2011;7: 387-392. 8. Salman D, et al. Evaluation of the performance of elastometric pumps in practice: are we under-delivering on chemotherapy treatments? Current Medical Research and Opinion. 2017;33(12): 2153-2159. 9. Hobbs J.G., et al. Flow Rate Accuracy of Ambulatory Elastometric and Electronic Infusion Pumps. Expert Review of Medical Devices. 2019:1-8. 10. LeRiger M, et al. Comparison of Flow Rate Accuracy and Consistency Between the On-Q, Baxter, and Ambu Pain Infusion Devices. World Journal of Anesthesiology. 2014;33(1):119-123. 11. Sauer A. Malnutrition in Patients With Cancer: An Often Overlooked and Under-treated Problem. Supportive Care. 2013;6(9). 12. ESPEN guidelines on nutrition in cancer patients published 2016 Clinical Nutrition.



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**Discover infusion devices designed
to help you deliver effective cancer care**

To find out more about the Micrel range go to micrelmed.com

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