

The Nexadia[®] System

Creating dimensions in process and quality management



Haemodialysis

Optimised Processes in Everyday Dialysis Routine



Nexadia® – a good choice

In dialysis, as in other disciplines, both medical and nursing staff are faced with the challenge of ensuring reliable and efficient care within the scope of legal provisions and economical requirements.

Dialysis centres are only able to achieve a high quality of medical treatments and efficiency of processes if daily data is retrieved, processed and filed effectively.

Our innovative and intelligent data management system Nexadia® helps you to simplify these processes considerably facilitates preparation of the documentation required for quality management. Nexadia® gives you efficient support in your everyday practice routine.

Increased cost efficiency

Automation of complex tasks

Less administrative activities and more time for the patient

Consistent documentation for optimum quality assurance

Easy operation meeting practical requirements

Automated saving and filing of relevant data

Nexadia® : Establishing Connections

The system Nexadia®: Monitoring software and database
Nexadia® Monitor is a clearly structured and user-friendly software which provides a transparent view and control of a wide range of processes in dialysis treatment.

The data generated in connected dialysis machines, analysers (e.g. blood gas analysis) and patient scales is automatically transferred and saved to Nexadia® Monitor, which enables clear visualisation and convenient editing of the data. Thanks to the bidirectional data transfer between Nexadia® Monitor and the connected dialysis machines, consistent and up-to-the-minute data records can be called up at any time, even during treatment.

Nexadia® Expert is a powerful and user-friendly database for dialysis centre therapy management.

Operation of Nexadia® Expert is intuitive. Functions include the editing and archiving of all treatment- and patient-related data and preparation of the documentation required for quality assurance.

Data from other medical information systems can also be imported and managed, e.g. patient master data, laboratory results, findings and diagnoses from external physicians.

Nexadia® Expert is perfectly co-ordinated with the Nexadia® monitoring software and automatically initiates bidirectional data transfer to and from Nexadia® Monitor and any other equipment connected to the system.

Together, Nexadia® Monitor and Nexadia® Expert provide an optimum system: highly efficient and easy to use (Fig. 1).

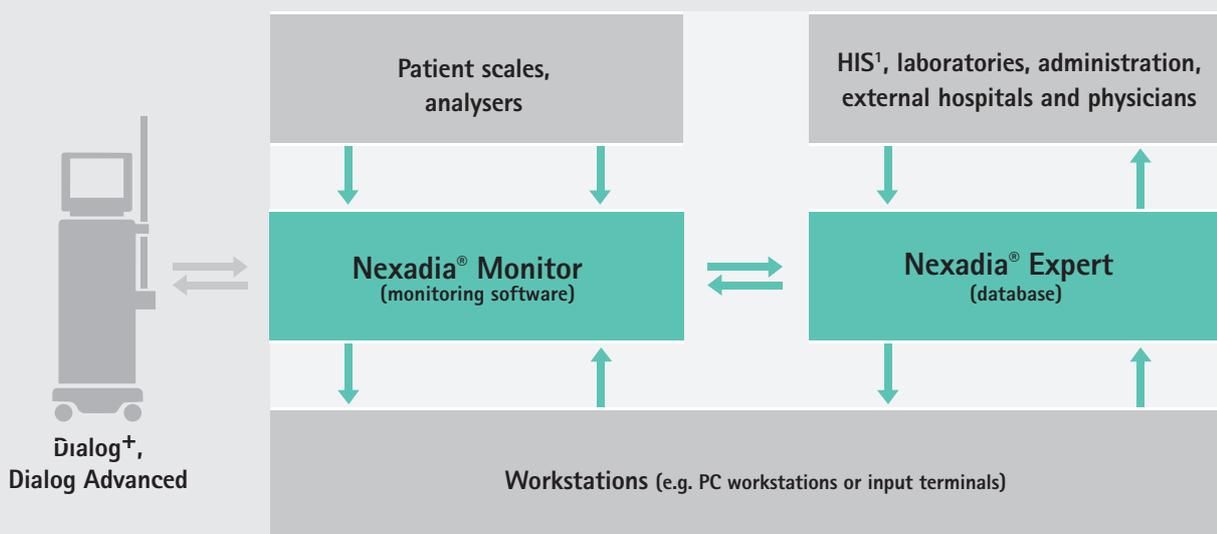


Fig. 1: Schematic overview of Nexadia®

¹Hospital Information Systems

Interactive Software: Nexadia® Monitor

Optimised workflows

During dialysis therapy, Nexadia® Monitor helps you simplify and speed up procedures, as well as improve their reliability and safety.

At the start of the treatment, patients log on to identify their saved therapy profiles. Logon is quick and easy thanks to an individual patient card which is identified by an external card reader on the patient scales.

The patient's current weight is directly transferred to the monitoring software via the network. Taking the patient information filed there as a basis, Nexadia® Monitor automatically determines the necessary UF rate which can also be updated manually if necessary.

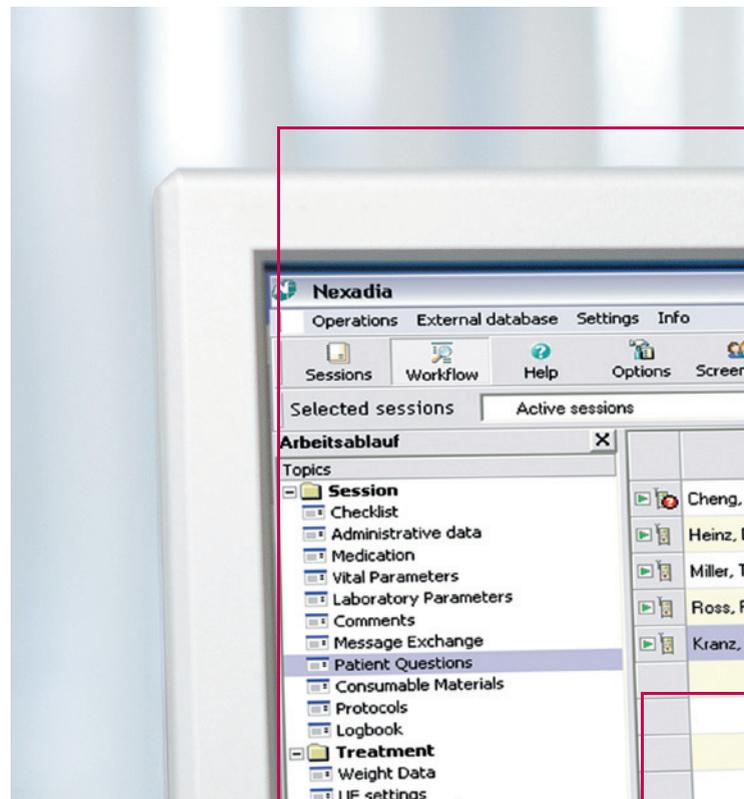
In the further course of the treatment, patients insert their card in the dialysis machine for logon. This initiates automatic download of the individual treatment parameters. After confirmation of these parameters, dialysis can be started immediately – without any time-consuming manual inputs or records having to be made by the nursing staff.

Automation saves time

Nexadia® Monitor automatically retrieves, consolidates and saves all data of the machines and devices connected to the network. There is no further need for time-consuming manual recording.

The easy-to-use graphical user interface can be freely configured according to individual requirements. It visualises the generated data with self-explanatory icons. Just click on one of these icons to open the related functionality in a separate dialog where it can be viewed and edited. Since communication is bidirectional, you can directly execute and confirm any instructions that are displayed as text messages on the screen of the dialysis machine.

The wide range of automation processes provided by Nexadia® Monitor makes dialysis therapy considerably less labour-intensive, thus allowing nursing staff to devote more time to individual patient care.



Data retrieval

Nexadia® Monitor can be connected to a network comprising many machines and devices, so that the data of dialysis machines as well as of scales and external blood pressure monitors can be recorded.

- Complete retrieval of treatment parameters

Monitoring

The treatment progress is displayed continuously and possible risks are signalled immediately.

Checklists provide a useful and convenient tool.

- Monitoring of treatment

Patient	Weight Before	Treatment Progress	Weight After	Checklist	Comments	Vital Parameters	UF	Download	State	Risks	Messages	Medication
(07.12.1935)	105,0											
vid (09.11.1943)	83,3	4%										
(25.03.1950)	84,6	100%	82,1									
nk (25.02.1953)	80,7											
arta (02.01.1951)	70,4	57%										

Documentation

All treatment data and any event occurring during the treatment, vital parameters, etc. are stored. Any data required for quality assurance, accounting and stockkeeping are documented.

- Continuous storage of all data
- Reduced administrative work

Download

Individual patient parameters from the monitoring software are directly downloaded to the dialysis machine.

No additional settings are necessary.

- Fast and easy transfer of settings
- No input errors

Warning functions

Self-explanatory coloured icons indicate risks, alarms, warnings, instructions that have not been followed and vital parameters that have reached values outside of limits.

Just click the mouse to open detailed information.

- Early detection of risks

Messaging

With Nexadia® Monitor, you can send text messages between the workstations and dialysis machines.

Instant transmission and implementation of physician's instructions.

- Time-saving
- Fast and reliable intervention

Flexible Database: Nexadia® Expert

The information system for dialysis

Data must also be retrieved, edited or evaluated in the time between treatments when there is no dialysis. Such data may include patient and treatment parameters, as well as information about the creation of accounts, stockkeeping, and quality assurance with attendant documentation.

Nexadia® Expert is a database for a variety of applications, which supports fast and clear control of therapy management in your dialysis centre (Fig. 2).

Digital patient file

Patient and treatment data can be entered in Nexadia® Expert after completion of the treatment. If Nexadia® Monitor is connected, these data are transferred automatically and quickly via a defined interface where they are constantly available, complete and up-to-date.

Moreover, Nexadia® Expert allows you to collect all patient-related data in a digital patient file so that you can save both space and paper. You can keep diagnoses and findings as well as medications and parameters from laboratories, external hospitals or medical specialists.

This allows accurate scheduling of future dialysis treatments, including exact dates, durations, UF rates, as well as prescriptions and medications.

Considerably fewer administration tasks

The administrative tasks associated with everyday dialysis routine are easy to perform with Nexadia® Expert. Integrated reporting and exporting functions support quality assurance and facilitate control and documentation tasks.

Nexadia® Expert can support, document and manage the entire haemodialysis procedure – from the first weighing results to the transfer of data to connected systems.

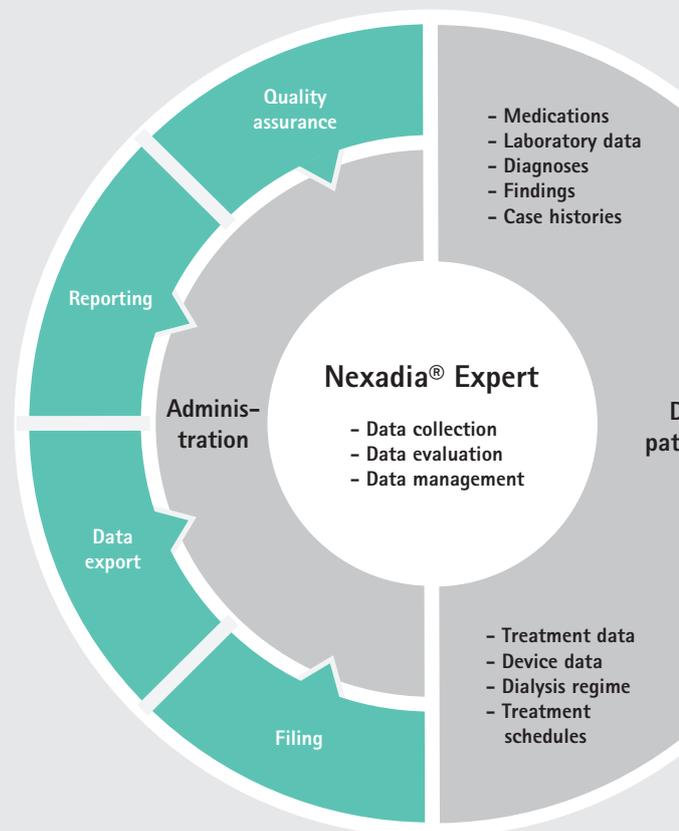
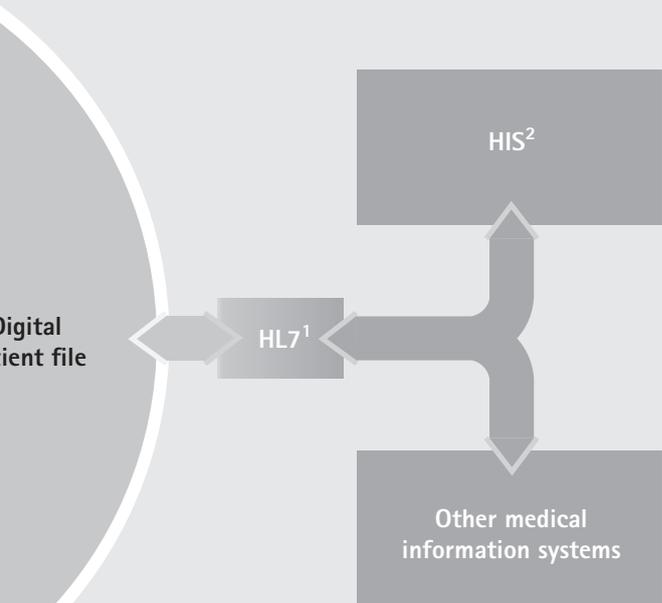
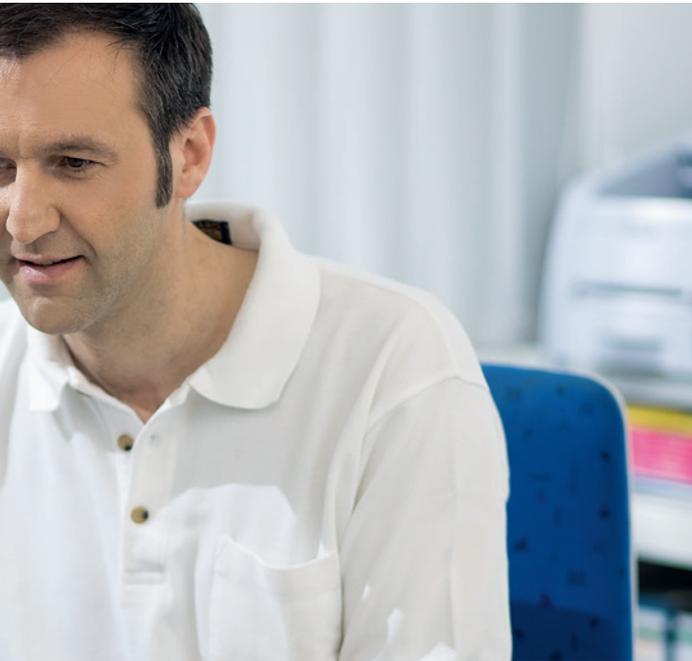


Fig. 2: Functions and tasks of Nexadia® Expert



Quality assurance with Nexadia® Expert

Quality assurance requires proof of the consistent high quality of dialysis treatments. Nexadia® Expert provides numerous functions to implement quality assurance measures.

The majority of data relevant to quality assurance are automatically retrieved during the treatment³, thus considerably reducing manual documentation work.

Furthermore, Nexadia® Expert also supports the storage of large volumes of additional data, which can be used for quality assurance purposes.

Individual and comprehensive dialysis regime

Medical data at a glance

Paper and time-saving management

User-friendly quality assurance

Systematic process optimisation

Contiguous information management

Connection of external data sources

¹Health Level 7 - international standard for exchanging data among health-care-oriented computer systems.

²Hospital information system – central EDP system of a hospital for editing administrative and medical data.

³If the Nexadia® Monitor system is connected, the data collected up to the point when the treatment is completed is automatically transferred directly to Nexadia® Expert via a defined interface.

Dialysis treatment

Monitoring

Automatic data transfer via LAN network

Patient scales
(identification via chip card)



Dialog+
(logon via chip card)

Analysers
(identification via chip card)

◀ The settings for the dialysis treatment are automatically transferred to the Dialog+ machine.

Nexadia® automatically collects all relevant treatment and patient data. ▶

◀ The Dialog+ machine can communicate with workstations via screen messages. ▶

Nexadia® Monitor



- Treatment support
- Therapy monitoring
- Data collection

Automatic data transfer via LAN network

LAN

Workstations

Access to Nexadia® Monitor via PC workstations or terminal clients

Treatment management

External physicians and hospitals

Exchange of information, such as findings, diagnoses, medications, and the like

Laboratories

Receipt of findings and results

e.g.
HL7



Nexadia[®] Expert

- Administration
- Treatment schedule
- Digital patient file
- Data evaluation and management
- Filing

◀ At the beginning of the treatment, the current treatment parameters are transferred from Nexadia[®] Expert to Nexadia[®] Monitor.

At the end of the treatment, the data is automated and transferred to the database. ▶

◀ Since the data is saved centrally, it can be edited everywhere and is always current and consistent. ▶



Administration

Data exchange with administration systems

Hospital Information System

Connection to the internal HIS

Therapy sequence using the Data Management System Nexadia®

1

The patient visits the dialysis centre to obtain regular treatment. The patient is weighed or steps on the scale and logs on, identifying himself with his Nexadia® patient chip card.

The predialytic weight is transferred automatically to the Nexadia® Monitor system where it will be used for further calculations.

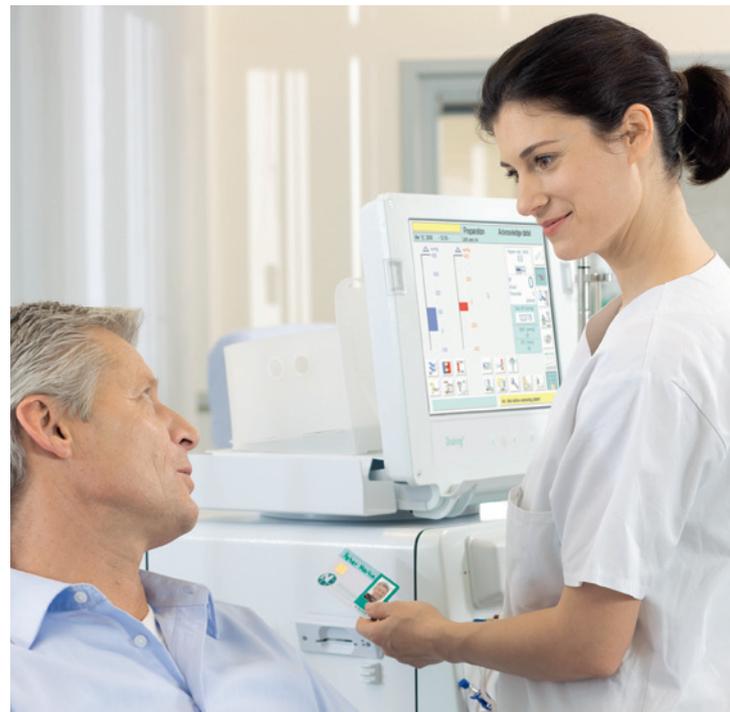
2

Preparation of dialysis station. The patient is connected to the dialysis machine.

The nursing staff insert the patient chip card in the dialysis machine, which calls for the download parameters (preset machine values).

The nursing staff display and check the values transferred to the dialysis machine, and explicitly confirm and release the values by simply pressing a button.

▶ Treatment can now be started with these preset values.



Communication System

While therapy is in progress, treatment and device data are continuously recorded.

Alarms and warnings output by the dialysis machine are immediately transmitted to Nexadia® Monitor where they are displayed.

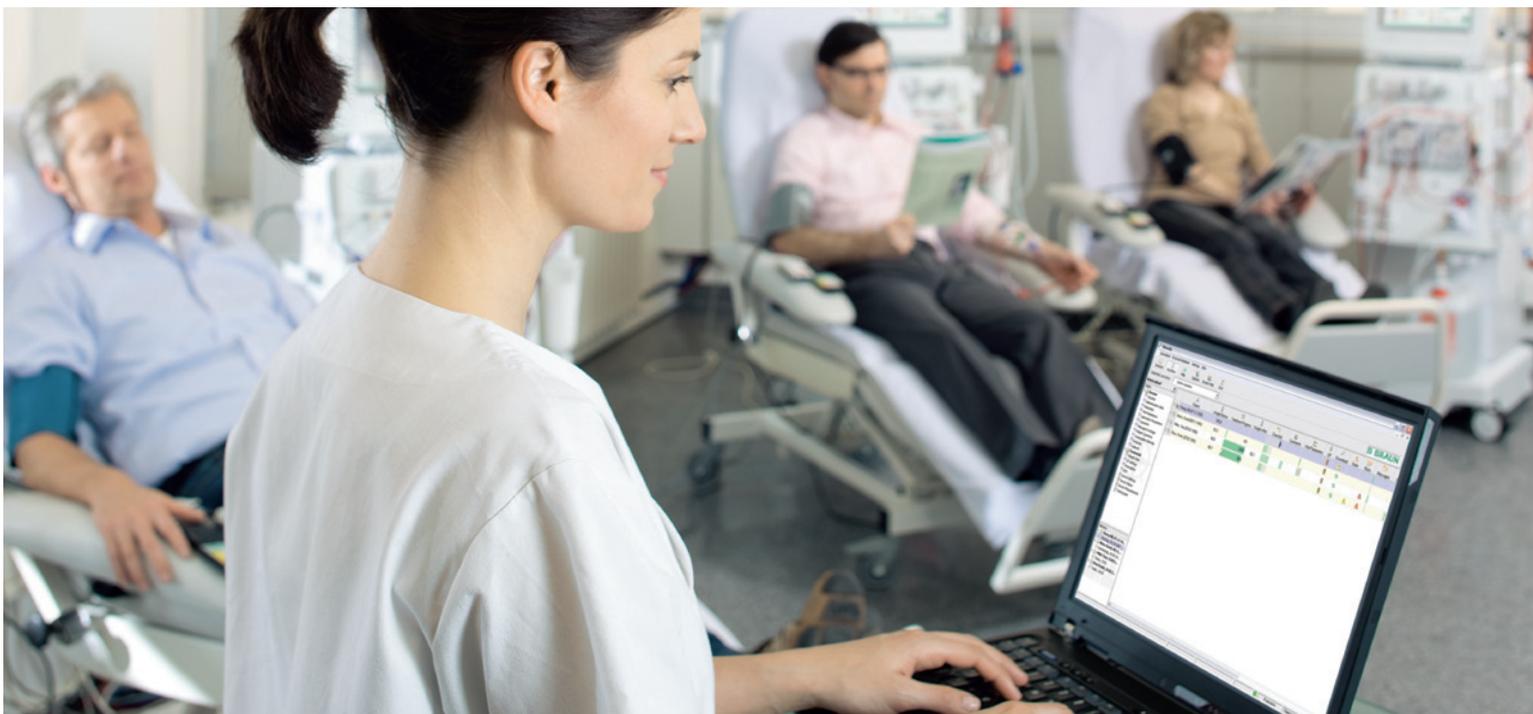
During therapy, text messages can be sent from Nexadia® Monitor to dialysis machine and, in the other direction,

reports for therapy documentation can be sent from the dialysis machine to Nexadia® Monitor.

The results of the automatic blood pressure measurements are also transmitted to Nexadia® Monitor where they are stored.

All recorded data are stored in Nexadia® Monitor and are available for export to Nexadia® Expert.

3



At the end of the treatment, the patient is disconnected and weighed once more.

As previously, the patient is identified over his patient chip card and his postdialytic weight is transferred automatically to Nexadia® Monitor.

If necessary, the nursing staff and the patient decide on further agreements before the patient leaves the centre.

4

Further relevant information can also be added to the session data record created by Nexadia® Monitor. Then the values are checked and the current session is completed.

On completion, a defined data record is transferred to the higher-level Nexadia® Expert system.

All data of the current therapy (and all previous therapies) can be viewed and accessed at any time in the Nexadia® Expert system.



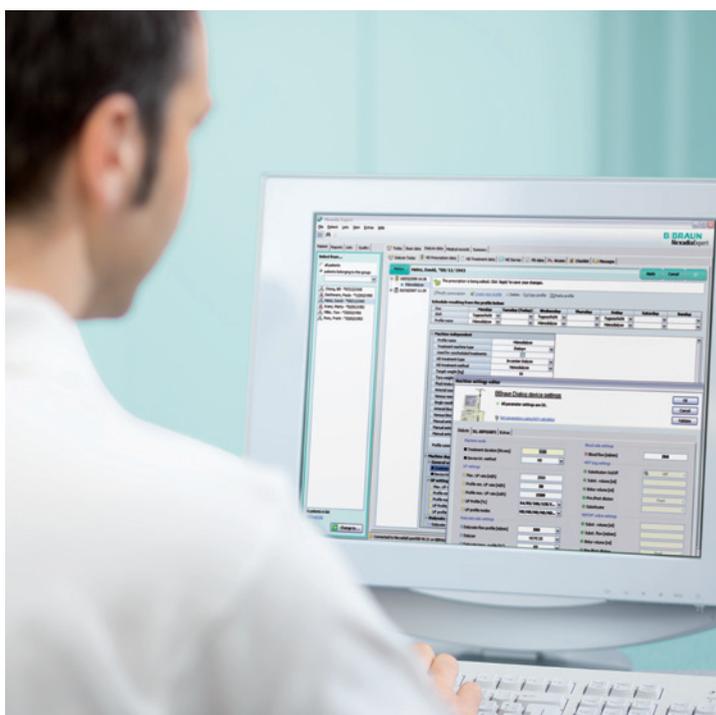
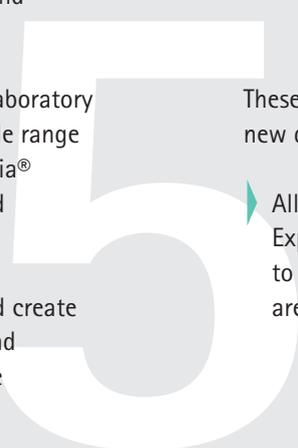
Nexadia® Expert also lets you store, modify and analyse a wide range of additional data.

As well as letting you record diagnoses and laboratory data, update medical files and supports a wide range of evaluation options, a key feature of Nexadia® Expert is the module for dialysis planning and documentation.

This module lets you schedule treatments and create individual patient prescriptions (treatment and machine parameters) and modify them where necessary.

These individual prescriptions provide a basis for each new dialysis procedure.

▶ All current data is transferred from Nexadia® Expert to Nexadia® Monitor and, from there, to the dialysis machine where the default values are set (see above, step 2).



Quality management

Nexadia® Expert particularly supports the quality management of a centre. All data stored in the system can be compiled and exported as desired (Excel, PDF, ...), e.g. in the form of reports.

In addition, the HL7 interface can be used to exchange data with other connected systems, such as the hospital information system (HIS) where the exported data can be used, e.g. for accounting purposes.

Systematic networking forms the basis for success

Closer to the patient

A prospective study¹ was conducted to examine the effect of Nexadia® Monitor on the workflows of a dialysis procedure.

The time nursing staff required for certain defined processes in the treatment of a total of 10 patients was compared both prior and subsequent to implementation of Nexadia® Monitor.

The study showed that the data network of the dialysis centre considerably reduced the time needed for each dialysis procedure – time which the nursing staff can instead devote to the patient.

In a total of 7 processes, Nexadia® Monitor helped to reduce the time the nursing staff needed per patient and per treatment by more than 21 minutes (Fig. 3).

If Nexadia® Monitor is used in combination with Nexadia® Expert, even more time can be saved which is then available to medical staff. As personnel become increasingly familiar with the Nexadia® system, a positive learning curve effect may also be expected. As a result, you could ultimately expect staff to save even more time when performing daily routine tasks.

Intelligent technology for individual requirements

The basic requirements for a data management system are flexibility and ease of operation. The Nexadia® system adapts to meet your work requirements – not the other way round.

The software interfaces of the system allow numerous combinations and connections, for example to hospital information systems. In addition to our Dialog+ and Dialog Advanced dialysis machines, peripheral equipment, such as patient scales, can also be incorporated in the network via standardised hardware interfaces.

Please do not hesitate to contact your local representative if you have any further enquiries.

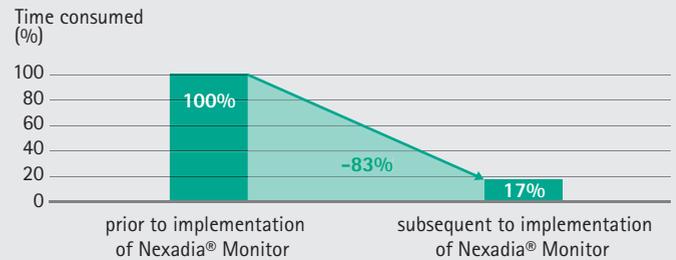


Fig. 3: Study results for nursing staff²

Time saved³ with ...

1. integrated automatic blood pressure measurement 100%
2. predialytic weighing 23%
3. setting of parameters in dialysis machines 55%
4. entering of data in treatment records 97%
5. measuring of blood pressure during treatment 100%
6. postdialytic weighing 17%
7. checking of treatment records 43%

¹ Osterkorn D.: «Networking for success in dialysis centers: A prospective comparative analysis». Gesundheitsökonomie und Qualitätsmanagement 2006; 11: 112-116.

² Per patient per treatment.

³ Steps numbered chronologically on the basis of a dialysis procedure.



Nexadia® and Dialog+ in combination

Used in combination, the integrated Nexadia® system and the Dialog+ dialysis machine allow intelligent retrieval and management of data.

The Dialog+ has outstanding network capabilities. It ensures optimum support for users and reduces their daily work load. For example, the touch screen can be used as an input terminal for Nexadia®.

Together, Nexadia® and Dialog+ ensure ideal conditions for high-quality dialysis with optimised processes.

Support and service

The Nexadia® product range also includes software maintenance and upkeep, installation, consulting and training services.

Creating dimensions in treatment quality

With the Dialog+ dialysis system, available in 3 basic configurations, B. Braun is raising the bar in the field of extracorporeal blood treatment. In Dialog+, intelligent software is perfectly integrated into sophisticated high-grade, hardware-equipped original accessories. As with every one of our products, every purchase is backed by excellent service support and dependable global logistics. The Dialog+ dialysis system represents the foundation of our concept: therapy quality, efficiency and ergonomics.

