

PC12223

Development of standard kits with utensils for outpatient parenteral antibiotic therapy

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WHAT WAS DONE?

The hospital pharmacy has composed standard kits with utensils for home-based outpatient parenteral antibiotic therapy.

WHY WAS IT DONE?

Home-based treatment has been introduced in the Capital Region of Denmark several years ago, but so far only in small scale when it comes to antibiotics. In the last few years, the wish to increase the number of patients receiving their antibiotic treatment in their own home arose. The hospital pharmacy is in several ways supporting the propagation of home-based outpatient parenteral antibiotic therapy in the Capital Region e.g., by production of 24-hour dose regimens for CADD pumps and EasyPumps, by supporting collaboration between hospitals and municipalities and by developing the logistics set-up.

During the process, the need for standardized kits with utensils was identified, as Danish hospitals are obliged to deliver utensils for the home-based treatment. The availability of kits with necessary utensils for aseptic handling of parenteral infusion in the patients own home would simplify and standardize the work for hospital and home nurses. In cases where the patient himself or relatives will handle the administration of antibiotics, the kit will make the task more manageable.

Considerations regarding patient safety and sustainability were also in favor of the kits, as choice of utensils could secure compliance to regional guidelines considering use of closed systems and rinse of the line after infusion. Kits containing the exact needed utensils for an administration also reduces the amount of waste compared to every patient receiving full boxes of utensils and saline.

HOW WAS IT DONE?

As the hospitals and the hospital pharmacy in the Capital Region provides care for patients from 29 different municipalities, the opinions on the content of the kits varies a lot. Therefore, the kit was composed in close collaboration between the pharmacy, hospital nurses and home nurses. Two different kits were composed – one for reconstitution of vials and one for administration of DiviBax (a two compartment, ready to use product).

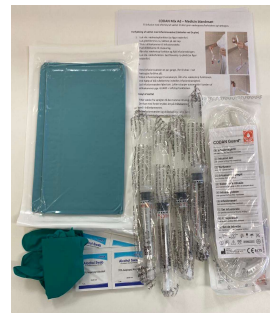


FACTS ON THE CAPITAL REGION
 Located around and north of Copenhagen
 2.568 km²
 1.8 million citizens
 10 somatic hospitals
 29 municipalities

A thorough research was conducted before the best suited infusion set was chosen - a closed system with two spikes for antibiotic mixing and infusion (Codan Mix-Ad set from Dodan Deha). Hereby nurses avoid direct contact with the antibiotics and avoid antibiotic aerosols in the patient's home.

Also, the wishes to comply with the regional guideline on rinse of the infusion line after infusion was fulfilled. The infusion set contains no PVC, phthalates or latex. When fully emptied the infusion set can be discarded as regular waste.

The kit in addition contains a sterile cover for the workstation, sterile ethanol swabs, gloves, pre-filled saline syringes for rinse of the line after infusion and a written manual with photos. All is packed and labelled by the hospital pharmacy and lot numbers are registered for traceability.



KIT FOR DIVIBAX (READY-TO-USE)
 Infusion set (Codan Ad-Mix)
 Gloves
 Alcohol swabs, sterile (4 pc.)
 Sterile cover for workstation
 BD Saline syringes (4 pc.)
 Instruction



KIT FOR RECONSTITUTION OF VIAL
 Infusion set (Codan Mix-Ad)
 Ecoflac bottle NaCl 0,9%, 100 ml
 Gloves
 Alcohol swabs, sterile (4 pc.)
 Sterile cover for workstation
 BD Saline syringes (6 pc.)
 Instruction

WHAT HAS BEEN ACHIEVED?

The kits have been tested in selected municipalities and the content of the kit has been adjusted. As a result of the feed-back a film has been recorded showing the handling of the infusion set. The video is used for training and a QR code on the written manual guides the home nurse to the video when needed. The kit is now used widely in the region and responses are positive. With the set-up being identical in all municipalities in the region, handling antibiotics and utensils is simpler for the hospital nurse at discharge and for the home nurse, as the utensils are not depending on what hospital the patient was discharged from.

A new kit with utensils for changing PVK has recently been developed.

WHAT NEXT?

As the number of patients in home-based OPAT rises, experiences with the kits will probably result in more wishes for adjustments or composing of new kits. Training of hospital staff and home nurses is ongoing, as some of the requests for changing the content of the kits might be due to lack of experience with especially the infusion set.

ACKNOWLEDGEMENTS

We wish to conclude with a word of thanks to all our colleagues in the hospitals, in the municipalities and the hospital pharmacy that have contributed with hard work in this project.

