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How should intravenous antibiotic therapy at home be organised?

OPINIONS

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Intravenous antibiotic therapy in the patient's home should be organised in a standardised system.

A growing number of hospitals in Norway are offering parenteral antimicrobial therapy to patients in a home setting (1, 2). This often happens in collaboration with hospital pharmacies, but different models are used.

The model used in the UK is outpatient parenteral antimicrobial therapy (OPAT), which is based on structured, multi-disciplinary and specialised teams making recommendations on the choice, dose and duration of therapy (1).

Systems have been established for training staff and patients. Wherever possible, common principles of antibiotic stewardship are followed, such as preferred use of narrow-spectrum antibiotics. Details of the infections treated, antimicrobial agents used, and therapy duration and efficacy are entered into national registers (3–5).

Given the growing number of patients offered outpatient parenteral antimicrobial therapy and the goal of several health authorities to increase the proportion of patients treated at home, we believe there is a need for similar standardisation in Norway.

Intravenous antibiotic therapy in the home setting often requires different equipment to the hospital setting, with elastomeric pumps for the outpatient setting being compounded by hospital pharmacies (3–7). These pumps ensure continuous infusion of the medicine and do not require electricity, making them easier to use at home (6).

For therapy in the home setting, infusion solutions need to be stored at room temperature for longer periods of time than indicated in the product information summary (7, 8). When extending a product's shelf- life, challenges arise in assessing degradation products, stability when exposed to sunlight and reliability of stability data on concentration and temperature (8). Accepting an extended shelf-life may be at odds with what is considered acceptable by the medical community and what is permitted by law. Local protocols and dosage regimens should be avoided in order to prevent unnecessary use of professional expertise; national standards should be established instead. When home therapy reaches a certain scope, it is also important to define who is responsible for the therapy and who will address any practical challenges that may arise.

In December 2023, the National Centre for Antibiotic Use in Hospitals and the Antibiotic Centre for Primary Care held a Scandinavian webinar on the use of outpatient parenteral antimicrobial therapy (9). Mark Gilchrist, Professor of Pharmacy at Imperial College London, advised starting with recommendations for best practice if a national system for administering intravenous antibiotics at home is to be established (5). The UK's recommendations (3, 4) can serve as a good starting point. A national standard for outpatient parenteral antimicrobial therapy should be utilised in combination with local teams that follow up patients.

REFERENCES

1. ESGAP-BSAC OPAT Survey Working Group. Survey of delivery of parenteral antimicrobials in non-inpatient settings across Europe. Int J Antimicrob Agents 2022; 59. doi: 10.1016/j.ijantimicag.2022.106559. [PubMed][CrossRef]

2. Nasjonalt senter for antibiotikabruk i sykehus (NSAS). UNN tester ut intravenøs hjemmebehandling med antibiotika. https://www.antibiotika.no/2024/01/31/unn-tester-ut-intravenos-hjemmebehandling-med-antibiotika/ Accessed 6.3.2024.

3. Chapman ALN, Patel S, Horner C et al. Updated good practice recommendations for outpatient parenteral antimicrobial therapy (OPAT) in adults and children in the UK. JAC Antimicrob Resist 2019; 1. doi: 10.1093/jacamr/dlz026. [PubMed][CrossRef]

4. British Society for Antimicrobial Chemotherapy (BSAC). Assessment tool for the BSAC Outpatient Parenteral Antimicrobial Therapy (OPAT). Good Practice Recommendations 2019. https://e-opat.com/wp-content/uploads/2022/05/BSAC_OPAT_GPR_Tool_FINAL_100320-1.pdf Accessed 6.3.2024.

5. Antibiotikasenteret for primærmedisin (ASP). Skandinavisk webinar: IV antibiotikabehandling utenfor sykehus. Passordbeskyttet. https://www.antibiotika.no/skandinavisk-webinar-iv-antibiotikabehandling-utenfor-sykehus/ Accessed 11.1.2024.

6. Spencer-Jones J, Luxton T, Bond SE et al. Feasibility, Effectiveness and Safety of Elastomeric Pumps for Delivery of Antibiotics to Adult Hospital Inpatients-A Systematic Review. Antibiotics (Basel) 2023; 12: 1351. [PubMed] [CrossRef]

7. British Society for Antimicrobial Chemotherapy (BSAC). Outpatient Parenteral Antimicrobial Therapy (OPAT). https://e-opat.com/ Accessed 20.2.2024.

8. Jenkins A, Shanu S, Jamieson C et al. Systematic review of the stability of antimicrobial agents in elastomeric devices for outpatient parenteral antimicrobial therapy services based on NHS Yellow Cover Document standards. Eur J Hosp Pharm Sci Pract 2022; 29: 304–7. [PubMed] [CrossRef]

9. Fjeld H. Nasjonalt senter for antibiotikabruk i sykehus (NSAS). Stabilitet/holdbarhet av antibiotika i løsning. https://www.antibiotika.no/wp-content/uploads/2023/05/H.-Fjeld-Stabilitet-antibiotika.pdf Accessed 24.5.2023.

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