

**Abstract:**

Over several decades, the economic situation and consideration of patient quality of life have been responsible for increased outpatient treatment. It is in this context that outpatient antimicrobial treatment (OPAT) has rapidly developed. The availability of elastomeric infusion pumps has permitted prolonged or continuous antibiotic administration by dint of a mechanical device necessitating neither gravity nor a source of electricity. In numerous situations, its utilization optimizes administration of time-dependent antibiotics while freeing the patient from the constraints associated with infusion by gravity, volumetric pump or electrical syringe pump and, more often than not, limiting the number of nurse interventions to one or two a day. That much said, the installation of these pumps, which is not systematically justified, entails markedly increased OPAT costs and is liable to expose the patient to a risk of therapeutic failure or adverse effects due to the instability of the molecules utilized in a non-controlled environment, instability that necessitates close monitoring of their use. More precisely, a prescriber must take into consideration the stability parameters of each molecule (infusion duration, concentration following dilution, nature of the diluent and pump temperature). The objective of this work is to evaluate the different means of utilization of elastomeric infusion pumps in intravenous antibiotic administration outside of hospital. Following a review of the literature, we will present a tool for optimized antibiotic prescription, in a town setting by means of an infusion device.

**Reference:**

Diamantis S, Dawudi Y, Cassard B, Longuet P, Lesprit P, Gauzit R. Home intravenous antibiotherapy and the proper use of elastomeric pumps: Systematic review of the literature and proposals for improved use. *Med Mal Infect.* 2020 Oct 22:S0399-077X(20)30759-9. doi: 10.1016/j.medmal.2020.10.019. Epub ahead of print. PMID: 33576336.