

Introduction

The fluoroquinolones comprise a class of agents derived from nalidixic acid and developed since the 1960s. The early fluoroquinolones had a limited spectrum of antibacterial activity, mainly against Gram-negative pathogens. The newer fluoroquinolone agents have enhanced intrinsic activity against Gram-positive organisms and anaerobes and improved pharmacokinetic characteristics in comparison with preceding derivatives. Emergence of resistance is mainly due to mutations in the QRDR region where phenotypic resistance arises as a result of stepwise mutations. Microorganisms with one mutation may exhibit elevated fluoroquinolone MICs that are sometimes difficult to distinguish from wild-type MIC distributions. Other low level resistance mechanisms include increased activity of efflux pumps, Qnr proteins (capable of protecting DNA gyrase from quinolones) and inactivating enzymes.

EUCAST has defined clinical breakpoints for the fluoroquinolones ciprofloxacin (CIP), levofloxacin (LEV), moxifloxacin (MOX), norfloxacin (NOR) and ofloxacin (OFL). They are with few exceptions available in all European countries. Older fluoroquinolones which are available only in few countries or in topical preparations have not been addressed.

Some fluoroquinolones are available for both oral and intravenous therapy while others are available for oral therapy only. This is reflected in the breakpoints.

Levofloxacin is used to treat acute exacerbations of chronic bronchitis, community-acquired pneumonia and acute sinusitis. It is more potent than ciprofloxacin against streptococci including *Streptococcus pneumoniae* but is less potent against *Pseudomonas aeruginosa*.

1. Dosage

	BSAC	CA-SFM	CRG	DIN	NWGA	SRGA
Most common dose (mg)	500 x 1 oral 500 x 1 iv	500 x 1 oral	500 x 1	500 x 1 oral 500 x 1 iv	-	500 x 1
Maximum dose schedule (mg)	500 x 1 oral 500 x 2 iv	500 x 2 oral	500 x 1	500 x 2 oral 500 x 2 iv	-	500 x 2
Available formulations	oral, iv	oral	oral, iv	oral, iv	-	oral, iv

