



NEW JERSEY  
MEDICARE  
PATIENT  
SAFETY  
PROGRAM

## Drug-on-Drug Interaction (DDI) In Focus: Warfarin & Quinolones

**Potential Interacting Drugs:** Warfarin (Coumadin, Jantoven) and quinolone antibiotics (e.g., ciprofloxacin, levofloxacin, moxifloxacin, norfloxacin, ofloxacin)

**Mechanism of Interaction:** The exact mechanism is unknown. Possible mechanisms include the reduction of vitamin k-producing intestinal flora, decreased metabolism of warfarin, and displacement of warfarin from protein binding.

**Clinical Concern(s):** Potential for increased bleeding due to increased anticoagulation effect of warfarin.

**Discussion:** Changes in prothrombin time (PT) and international normalized ration (INR) values, as well as bleeding complications, have been reported in the literature with the concomitant use of warfarin and certain quinolones.

**Prevention:** Consider microbial identification and sensitivity testing before antibiotic initiation. Use alternative antibiotic if possible.

**Management:** The potential for clinically significant interactions warrants the close monitoring of the PT or INR with the co-administration of warfarin or its derivatives and a quinolone antibiotic. Patients should be advised to report any signs or symptoms of unusual or excessive bleeding, such as the appearance of bruises, gum or nose bleeding, tea colored urine, and red or black stools to their physicians.

*This information is not intended to provide medical advice, diagnosis, or treatment.*

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## References

Carroll DN, Carroll DG. Interactions between warfarin and three commonly prescribed fluoroquinolones. *The Annals of Pharmacotherapy*. 2008 May;42(5): 680-685.

Holbrook AM, Pereira JA, Labiris R, McDonald H, Douketis JD, Crowther M, Wells PS. Systematic overview of warfarin and its drug and food interactions. *Archives of Internal Medicine* [Internet]. 2005 [cited 2008 Dec 15];165(10):1095-1106. Available from: <http://archinte.ama-assn.org/cgi/content/full/165/10/1095>.

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