



PIC QUESTION OF THE WEEK: 03/14/05

Q: A hospice patient has been taking Dilantin® capsules for several months. Her current dose is 400 mg divided twice daily. She is no longer able to swallow capsules, so her physician wants to switch to Dilantin® Oral Suspension. What dose of suspension would most likely maintain her current serum levels of phenytoin?

A: When converting between medication formulations, it may be important to consider the salt form of the active ingredient. In this case, Dilantin® capsules are formulated as the sodium salt, while Dilantin® Oral Suspension is manufactured as the free acid. This variation in salt forms may result in different doses of the parent compound. In this case, phenytoin sodium capsules, 100 mg, contain 92 mg (92%) phenytoin. The free acid form of phenytoin in the suspension yields 125 mg of free phenytoin per 5 ml (100% phenytoin). A dose of three teaspoonfuls per day (375 mg) of suspension would approximate the amount administered as capsules (368 mg). Although the extended-release capsule can be given 1-2 times daily, it is appropriate to provide the oral suspension in three equally divided doses. Thus, a 5 ml dose of Dilantin® Oral Suspension three times daily should result in phenytoin levels comparable to those of two 100 mg capsules administered twice daily. In addition, it is recommended that a baseline phenytoin level be taken prior to conversion of dosage forms and periodically thereafter. Therapeutic phenytoin levels range from 10-20 mcg/ml. Trough concentrations are generally recommended for routine monitoring and, in this case, should be drawn within 2-3 days of initiation of therapy with the oral suspension. A second level can be obtained within 6-7 days and the dosage adjusted accordingly. In a stable patient, phenytoin levels can subsequently be drawn every 3-12 months. Some common signs of phenytoin toxicity include nystagmus, ataxia, dysarthria, and lethargy.

References:

- Winter ME. Phenytoin and fosphenytoin. In: Murphy JE, ed. Clinical pharmacokinetics. 3rd ed. Bethesda: ASHP, 2005: 267-85.
- Battino D, Giacona N, et al: Phenytoin. Micromedex. In: Hutchison TA and Shahan DR (EDs): DRUGDEX® System. Micromedex, Greenwood Village, Colorado (Edition expires March, 2005).

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