

Genotyping

CYP2C9 and VKORC1 genotype results may provide directional guidance for warfarin dosing in pediatric patients. Clinical genotyping is available through the CMH Laboratory. Approximately 50% of the variability in warfarin dose-response in adults has been associated with the variants in CYP2C9 and VKORC1 detected by this test. The test does not provide quantitative information which links a specific genotype with a precise warfarin dose and large scale studies looking at genotype and effect have not been performed; however, the results may be useful in clinical decision making when interpreted in the context of other "factors" known to influence the dose-response for warfarin (such as drug-drug interactions, patient age, drug-diet interactions, drug-disease interactions). Consultations provided by the Division of Pediatric Clinical Pharmacology and Medical Toxicology can provide such a multifactorial assessment and thus, may be beneficial.

References:

Ansell J, et al. Pharmacology and Management of the Vitamin K Antagonists: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). *Chest*. 133 (6Suppl): 160S-198S, 2008 Jun.

Bolton-Maggs P , Brook L. The use of vitamin K for reversal of over-warfarinization in children. *Br J Haematol* 2002; 118:924.

David, M., et al. Warfarin Therapy in Children. Thrombosis Interest Group of Canada. May 2004. <http://www.tigc.org/eguidelines/warfarinchildren04.htm>. Accessed 10/21/08.

Horton, JD, et al. Warfarin Therapy: Evolving Strategies in Anticoagulation. *American Family Physician*; 1999 Feb; 59(3):635-646.
<http://www.aafp.org/afp/AFPprinter/990201ap/635.html>

Lexi-Drugs Online/Pediatric Lexi-Drugs Online,
Warfarin, <http://online.lexi.com/crlsql/servlet/crlonline>, Copyright © 1978-2008 Lexi-Comp, Inc, Hudson, OH 44236

Monagle P. Chalmers E. Chan A. DeVeber G. Kirkham F. Massicotte P. Michelson AD. Antithrombotic therapy in neonates and children: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). [Journal Article] *Chest*. 133(6 Suppl):887S-968S, 2008 Jun.

Monagle P. Chan A. Massicotte P. Chalmers E. Michelson AD. Antithrombotic therapy in children: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. [Review] [487 refs] [Guideline. Journal Article. Practice Guideline. Review] Chest. 126(3 Suppl):645S-687S, 2004 Sep.

Roach ES. Golomb MR. Adams R. Biller J. Daniels S. Deveber G. Ferriero D. Jones BV. Kirkham FJ. Scott RM. Smith ER. American Heart Association Stroke Council. Council on Cardiovascular Disease in the Young. Management of stroke in infants and children: a scientific statement from a Special Writing Group of the American Heart Association Stroke Council and the Council on Cardiovascular Disease in the Young. [Journal Article] Stroke. 39(9):2644-91, 2008 Sep.

These guidelines do not establish a standard of care to be followed in every case. It is recognized that each case is different and those individuals involved in providing health care are expected to use their judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. It is impossible to anticipate all possible situations that may exist and to prepare guidelines for each. Accordingly these guidelines should guide care with the understanding that departures from them may be required at times.

[Children's Mercy Kansas City](#) / [Health Care Providers](#) / [Evidence Based Practice](#) / [Clinical Practice Guidelines and Care Process Models](#) / [Anticoagulation Therapy: Warfarin Therapy Algorithm](#) / Genotyping

2401 Gillham Road, Kansas City, MO 64108

© Copyright 2022 The Children's Mercy Hospital

Language Assistance Available

[Notice of Nondiscrimination](#) [Español](#) [繁體中文](#) [Tiếng Việt](#) [Serbo-Croatian](#) [Deutsch](#) [한국어](#) [Français](#) [Laotian](#) [العربية](#) [Tagalog](#) [Burmese](#)
[Persian \(Farsi\)](#) [Deutsch](#) [Oromo](#) [Português](#) [Amharic](#) [日本語](#) [Русский](#) [Hmong](#) [Swahili](#)