

# SAINT FRANCIS HEALTH SYSTEM LABORATORY UPDATE

DATE: September 28, 2009  
TO: Medical Staff  
FROM: Michael Kayser, DO, FACMG  
SUBJECT: 25-Hydroxyvitamin D Method and Reference Range Changes with the Addition of 25-Hydroxyvitamin D<sub>2</sub> and 25-Hydroxyvitamin D<sub>3</sub>

**Effective October 6, 2009, the Center for Genetic Testing at Saint Francis Biochemical Genetics Laboratory will begin to test 25-Hydroxyvitamin D using the high performance liquid chromatography triple quadrupole mass spectrometer (LC/MSMS) method. New test will replace send-out testing utilizing chemiluminescent immunoassay method. Reference ranges will change and are based on literature values and expert opinion.**

OVERVIEW: Vitamin D is a group of fat soluble prohormones which, in conjunction with parathyroid hormone and calcitonin, are biological regulators of calcium metabolism. The major forms of the group are D<sub>2</sub> (ergocalciferol) obtained through nutrition or supplementation and D<sub>3</sub> (cholecalciferol) produced photochemically in the skin. Vitamin D deficiency has been shown to be common in adults and children due to lack of sun exposure, poor nutritional status, and increased use of sunscreens. Effects of Vitamin D deficiency include calcium malabsorption associated with rickets, osteoporosis and osteomalacia, and possibly cancer risk. Therefore, assessment of Vitamin D status has become increasingly important in the diagnosis and management of Vitamin D deficiency.

<u>Test Result</u>	<u>Current Range</u>	<u>New Range</u>	
25-Hydroxyvitamin D Total	< 20 ng/mL	< 10 ng/mL	deficiency
	20-29 ng/mL	10-30 ng/mL	insufficiency
	30-80 ng/ml	30-100 ng/mL	sufficiency
	> 80 ng/ml	> 100 ng/mL	possible toxicity
25-Hydroxyvitamin D <sub>2</sub> *	No established reference ranges		
25-Hydroxyvitamin D <sub>3</sub>	No established reference ranges		

\* Levels > 4 ng/mL may be an indicator of supplementation

For further information, contact The Center for Genetic Testing at Saint Francis Biochemical Genetics Laboratory at (918) 502-2290 or (918) 502-1720 or Dr. Kayser at (918) 502-2280.