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## on Drugs and Therapeutics

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### IN BRIEF

#### New Recommendations for Use of Metformin in Renal Impairment

The FDA has required labeling changes that replace serum creatinine (SCr) with estimated glomerular filtration rate (eGFR) as the parameter used to determine the appropriateness of treatment with the biguanide metformin (*Glucophage*, and others) in patients with renal impairment. These changes will allow more patients with mild to moderate renal impairment to receive metformin, which is generally the first drug prescribed for treatment of type 2 diabetes.

Metformin was previously contraindicated in women with a SCr level  $\geq 1.4$  mg/dL and in men with a SCr level  $\geq 1.5$  mg/dL, but use of SCr as a surrogate indicator tends to underestimate renal function in certain populations (e.g., younger patients, men, black patients, patients with greater muscle mass). The calculation of eGFR takes into account age, race, and sex, as well as SCr level, providing a more accurate assessment of kidney function. A literature review summarized in an FDA Drug Safety Communication concluded that, based on eGFR, metformin is safe to use in patients with mild renal impairment and in some patients with moderate renal impairment.<sup>1</sup>

The eGFR should be calculated before patients begin treatment with metformin and at least annually thereafter. Metformin is now contraindicated in patients with an eGFR  $< 30$  mL/min/1.73 m<sup>2</sup>, and starting treatment with the drug in patients with an eGFR between 30 and 45 mL/min/1.73 m<sup>2</sup> is not recommended. If the eGFR falls below 45 mL/min/1.73 m<sup>2</sup> in a patient already taking metformin, the benefits and risks of continuing treatment should be assessed. Metformin should be not be administered for 48 hours after an iodinated contrast imaging procedure in patients with an eGFR  $< 60$  mL/min/1.73 m<sup>2</sup> or a history of liver disease, alcoholism, or heart failure, or in those receiving intra-arterial contrast, and the eGFR should be re-evaluated before treatment is restarted. ■

1. FDA Drug Safety Communication: FDA revises warnings regarding use of the diabetes medicine metformin in certain patients with reduced kidney function. Available at: [www.fda.gov/Drugs/DrugSafety/ucm493244.htm](http://www.fda.gov/Drugs/DrugSafety/ucm493244.htm). Accessed April 14, 2016.

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