

METHYLENE BLUE

**Indications/
Background:**

Methemoglobin level >30%

Methemoglobin level >20% with symptoms of hypoxia (eg, headache, chest pain, dizziness, nausea, dyspnea, confusion, seizures, coma) and/or concurrent medical illness such as heart disease, lung disease, carbon monoxide poisoning, anemia

Oxidizing agents that can cause methemoglobinemia include: nitrates, nitrites, local anesthetics (eg, benzocaine, prilocaine), aniline dyes, phenazopyradine, dapsone, naphthalene, nitrobenzene, dinitrophenol, quinines and sulfonamide

Route:

IV only

Dosing:

1 mg/kg over 5 - 30 minutes

May repeat once in 60 minutes if levels remain above 30% or no clinical improvement

Goals:

Methemoglobin level of less than 20%; resolution of symptoms

Adverse Effects:

Cardiovascular: Hypertension, Hypotension

Dermatologic: Sweating symptom

Gastrointestinal: Abdominal pain, Diarrhea, Nausea, Vomiting

Neurologic: Dizziness, Headache

Psychiatric: Confusion

Blue-green discoloration of urine

Hemolysis in patients with Glucose-6-Phosphate Dehydrogenase (G-6PD) Deficiency

Worsening methemoglobinemia in patients with G-6PD Deficiency

High supratherapeutic doses of methylene blue may paradoxically cause methemoglobinemia in patients without G-6PD deficiency

Cautions:

Methylene blue is a Mono-Amine Oxidase Inhibitor (MAOI) and there are multiple case reports of serotonin syndrome after methylene blue administration in patients taking serotonergic drugs.

When G-6PD deficiency is known or suspected, consult IPC medical toxicologist.

Provyblue is a 50 mg/10 ml solution and should be mixed in D5W

Monitor:

Methemoglobin levels, Hemoglobin, Hematocrit, blood smear