METHYLPHENIDATE tab/amp:

Class: Central Nervous System Stimulant
Indications: Treatment of attention-deficit/hyperactivity disorder (ADHD); symptomatic management of narcolepsy, treatment of depression in medically-ill older adults or adult patients with terminal illness and/or receiving palliative care

Available dosage form in the hospital:

Trade Names: 10MG TAB
10MG/AMP

Dosage:
-ADHD:
-Oral, immediate release (IR) products (tablets, chewable tablets, and solution): Initial: 5 mg twice daily, before breakfast and lunch; increase by 5-10 mg daily at weekly intervals; maximum dose: 60 mg daily (in 2-3 divided doses).
-Oral, extended release (ER), sustained release (SR) products (capsules, tablets, and oral suspension):
- *Concerta:* (Adults <65 years):
-Patients not currently taking methylphenidate: Initial:
- U.S. labeling: 18-36 mg once every morning
- Canadian labeling: 18 mg once every morning

-Patients currently taking immediate release (IR) methylphenidate: Initial: **Note:** Dosing based on current regimen and clinical judgment; suggested dosing listed below:
- Patients taking IR methylphenidate 5 mg 2-3 times daily **or** (Canadian labeling; not in U.S. labeling) methylphenidate SR 20 mg daily: 18 mg once every morning
- Patients taking IR methylphenidate 10 mg 2-3 times daily **or** (Canadian labeling; not in U.S. labeling) methylphenidate SR 40 mg daily: 36 mg once every morning
- Patients taking IR methylphenidate 15 mg 2-3 times daily **or** (Canadian labeling; not in U.S. labeling) methylphenidate SR 60 mg daily: 54 mg once every morning
- Patients taking IR methylphenidate 20 mg 2-3 times daily: 72 mg once every morning

Dose adjustment: May increase dose in increments of 18 mg at weekly intervals. A dosage strength of 27 mg is available for situations in which a dosage between 18-36 mg is desired. Maximum dose: 72 mg daily.
-*Biphentin (Canadian product):* Patients not currently taking methylphenidate: Initial: 10-20 mg once daily; may be adjusted in 10 mg increments at weekly intervals to a maximum dose of 80 mg daily.
-*Conversion from immediate release methylphenidate formulations to Biphentin:* Use equivalent total daily dose administered once daily.
-*Metadate ER, Ritalin-SR:* May be given in place of immediate release products (duration of action ~8 hours), once the immediate release formulation daily dose is titrated and the titrated 8-hour dosage corresponds to sustained or extended release tablet size; maximum: 60 mg daily
-*Metadate CD, Quillivant XR:* Initial: 20 mg once daily; may be adjusted in 10-20 mg increments at weekly intervals; maximum: 60 mg daily
-*Ritalin LA*: Initial: 20 mg once daily (10 mg once daily may be considered for some patients); may be adjusted in 10 mg increments at weekly intervals; maximum: 60 mg daily
Conversion from immediate release or sustained release methylphenidate formulation to Ritalin LA: Use equivalent total daily dose administered once daily.
-Narcolepsy: Oral:
-Immediate release tablets and solution *(Methylin, Ritalin):* Initial: 5 mg twice daily before breakfast and lunch; increase by 5-10 mg daily at weekly intervals; maximum dose: 60 mg daily (in 2-3 divided doses).
-Extended and sustained release tablets *(Metadate ER, Ritalin-SR):* May be given in place of immediate release products (duration of action ~8 hours), once the immediate release formulation daily

dose is titrated and the titrated 8-hour dosage corresponds to sustained or extended release tablet size; maximum: 60 mg daily.

-**Depression in medically-ill older adults or adult patients with terminal illness and/or receiving palliative care (unlabeled use):** Oral: Initial: ***Immediate release:*** 2.5-5 mg once daily before breakfast or twice daily before breakfast and lunch; increase by 2.5-5 mg daily every 1-3 days in divided doses before breakfast and lunch as tolerated; maximum dose: 20-40 mg daily (Hardy, 2009; Kerr 2012). *Do **not** use sustained release product.*

Renal Impairment:

-Oral: No dosage adjustment provided in manufacturer's labeling (has not been studied); undergoes extensive metabolism to a renally eliminated metabolite with little or no pharmacologic activity.

-Transdermal: No dosage adjustment provided in manufacturer's labeling (has not been studied).

Hepatic Impairment:

-Oral: No dosage adjustment provided in manufacturer's labeling (has not been studied).

-Transdermal: No dosage adjustment provided in manufacturer's labeling (has not been studied).

Common side effect:

All dosage forms:

Cardiovascular: Angina, cardiac arrhythmia, cerebral arteritis, cerebral hemorrhage, cerebral occlusion, cerebrovascular accidents, hyper-/hypotension, MI, murmur, palpitation, pulse increased/decreased, Raynaud's phenomenon, tachycardia, vasculitis

Central nervous system: Motion sickness (children 2%), tic (children 2%), aggression, agitation, anger, anxiety, confusional state, depression, dizziness, drowsiness, emotional lability, fatigue, fever, headache, hypervigilance, insomnia, irritability, lethargy, nervousness, neuroleptic malignant syndrome (NMS) (rare), restlessness, stroke, tension, Tourette's syndrome (rare), toxic psychosis, tremor, vertigo

Dermatologic: Excoriation (children 4%), alopecia, erythema multiforme, exfoliative dermatitis, hyperhidrosis, rash, urticaria

Endocrine & metabolic: Dysmenorrhea, growth retardation, libido decreased

Gastrointestinal: Abdominal pain, anorexia, appetite decreased, bruxism, constipation, diarrhea, dyspepsia, nausea, vomiting, weight loss, xerostomia

Genitourinary: Erectile dysfunction

Hematologic: Anemia, leukopenia, pancytopenia, thrombocytopenia, thrombocytopenic purpura

Hepatic: Bilirubin increased, hepatic coma, liver function tests abnormal, transaminases increased

Neuromuscular & skeletal: Arthralgia, dyskinesia, muscle tightness, paresthesia

Ocular: Eye pain (children 2%), blurred vision, dry eyes, mydriasis, visual accommodation disturbance

Renal: Necrotizing vasculitis

Respiratory: Cough increased, dyspnea, pharyngitis, pharyngolaryngeal pain, rhinitis, sinusitis, upper respiratory tract infection

Miscellaneous: Accidental injury, hypersensitivity reactions

Postmarketing and/or case reports (Limited to important or life-threatening): Alkaline phosphatase increased, bradycardia, disorientation, extrasystole, hallucinations; hypersensitivity reactions (eg, angioedema, anaphylactic reactions, auricular swelling, bullous conditions, exfoliative conditions, urticaria, pruritus, rash, eruptions, exanthemas); mania, migraine, obsessive-compulsive disorder, priapism, seizure, supraventricular tachycardia, ventricular extrasystole

Transdermal system:

Central nervous system: Headache (≤15%; long-term use in children: 28%), insomnia (6% to 13%; long-term use in children: 30%), irritability (7% to 11%)

Gastrointestinal: Appetite decreased (26%), nausea (10% to 12%)

Miscellaneous: Viral infection (long-term use in children: 28%

Pregnancy Risk Factor: C