# Top of the Heap!

**Frequently Prescribed Brand-Name Medications and Their Clinical Dental Considerations**

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## Program Learning Objectives

Upon successful completion of this program, participants will be able to:

- Identify 20 frequently prescribed FDA-approved medications.
- Review the basic mechanism of action, therapeutic indications, and potential adverse reactions and drug interactions of these medications.
- Discuss the clinical dental considerations of these medications and potential impact on dentistry.

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**Lipitor (atorvastatin)**

**Crestor (rosuvastatin)**

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**Lipitor (atorvastatin)**

- **Pharmacologic Classification**
  - Antihyperlipidemic

- **Mechanism of Action**
  - Inhibits HMG-CoA reductase, reduces cholesterol synthesis, decreases LDL’s and increases HDL’s

- **Therapeutic Indication**
  - Treatment of high cholesterol
  - Reduction of risk of MI, angina

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**Lipitor (atorvastatin)**

- **Adverse Effects**
  - Headache
  - Myalgia, allergy
  - GI upset
  - Anterograde amnesia
  - Flatulence

- **Dental Considerations**
  - Drug interactions with erythromycin, fluconazole, grapefruit juice, pomegranate juice
    - Possible severe myopathy or rhabdomyolysis

- **Precautions**
  - Active liver disease
  - Pregnancy

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**Nexium (esomeprazole)**

- **Pharmacologic Classification**
  - Proton-pump inhibitor

- **Mechanism of Action**
  - Inhibits enzyme on the surface of parietal cells, reduces gastric acid synthesis

- **Therapeutic Indication**
  - Treatment of gastroesophageal reflux disease

- **Adverse Effects**
  - Headache
  - GI upset
  - Dizziness
  - Xerostomia
  - Halitosis

- **Precautions**
  - Active liver disease
  - Allergy

- **Dental Considerations**
  - Reduced absorption of drugs requiring low pH
  - Use NSAIA’s with caution
  - Possible blood dyscrasias
  - Consider semi-supine chair position

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**Plavix (clopidogrel)**

- **Pharmacologic Classification**
  - Platelet aggregation inhibitor

- **Mechanism of Action**
  - Inhibits binding of ADP to platelet receptors, inhibits formation of thrombi

- **Therapeutic Indication**
  - Treatment of MI, stroke, PVD
  - Treatment of acute coronary syndrome
  - Prevention of thrombosis post-stent placement

- **Adverse Effects**
  - Skin rash
  - Epistaxis, bruising
  - GI upset
  - Stomatitis, dysgeusia

- **Precautions**
  - Active liver disease
  - Active bleeding

- **Dental Considerations**
  - Avoid discontinuation for dental procedures due to increased risk of thromboembolism
  - Use NSAIA’s with caution
  - Consider local hemostasis measures
Oral Anticoagulant Agents

**Types**
- Coumadin (warfarin)
  - Inhibits the synthesis of Vitamin K-dependent clotting factors

**Uses**
- Prevention and treatment of venous thrombosis, pulmonary embolism, thromboembolism due to
  - Atrial fibrillation
  - Prosthesis
  - Recent MI

Oral Anticoagulant Agents

**Types**
- Pradaxa (dabigatran)
  - Inhibits thrombin (factor IIa)

**Uses**
- Prevention and treatment of venous thrombosis, pulmonary embolism, thromboembolism due to atrial fibrillation

Oral Anticoagulant Agents

**Types**
- Xarelto (rivaroxaban)
- Eliquis (apixaban)
- Savaysa (edoxaban)
  - Inhibit factor Xa

**Uses**
- Prevention and treatment of venous thrombosis, pulmonary embolism, thromboembolism due to atrial fibrillation

Oral Anticoagulant Agents

**Patient care considerations**
- Increased risk of bleeding
  - Assessed by INR
    - INR (international normalized ratio)
      - Value of 1 is "normal"
      - Value of <3.5 is needed for dental treatment
  - INR test should be done immediately before oral treatment

Oral Anticoagulant Agents

**Patient care considerations**
- Antidote for reversal: Praxbind
- No INR testing for monitoring

**Dental considerations**
- Anticoagulant effect may be reversed with administration of Vitamin K or whole blood
- Increased risk of bleeding may be exacerbated by other drugs used in dentistry
  - NSAIA’s
  - Antibiotics

**Uses**
- Prevention and treatment of venous thrombosis, pulmonary embolism, thromboembolism due to atrial fibrillation

Oral Anticoagulant Agents

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  - NSAIA’s
  - Antibiotics

**Uses**
- Prevention and treatment of venous thrombosis, pulmonary embolism, thromboembolism due to atrial fibrillation
Oral Anticoagulant Agents

- Patient care considerations
  - Reversal agent for Xarelto and Eliquis: Andexxa
  - No reversal agent for Savaysa
    - No INR testing for monitoring
  - Increased risk of bleeding may be exacerbated by other drugs used in dentistry
    - NSAIA’s
    - Antibiotics
  - No contraindication for dental treatment!

Singulair (montelukast)

- Pharmacologic Classification
  - Leukotriene receptor antagonist
- Mechanism of Action
  - Inhibits binding of leukotrienes to receptors, decreases bronchoconstriction and edema
- Therapeutic Indication
  - Prophylaxis and treatment of chronic bronchial asthma

- Adverse Effects
  - Headache
  - Skin rash
  - GI upset
  - Viral infection
- Precautions
  - Not for use in acute asthma or exercise-induced asthma
- Dental Considerations
  - Keep short-acting bronchodilators readily available
  - Use NSAIA’s with caution
  - Consider semi-supine chair position

Lexapro (escitalopram)

- Pharmacologic Classification
  - Antidepressant
- Mechanism of Action
  - Selective serotonin reuptake inhibitor (SSRI), increases serotonin activity at receptors
- Therapeutic Indication
  - Treatment of major depressive disorder
  - Treatment of generalized anxiety disorder
Lexapro (escitalopram)

- **Adverse Effects**
  - Headache
  - Xerostomia
  - GI upset
  - Bruxism

- **Precautions**
  - Increased bleeding
  - Serotonin syndrome
  - Seizure disorder
  - Suicidal thoughts

- **Dental Considerations**
  - Increased risk of bleeding events, especially with concurrent use of NSAIA’s, aspirin, warfarin
  - Use epinephrine with caution, monitor blood pressure and pulse

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Synthroid (levothyroxine)

- **Pharmacologic Classification**
  - Thyroid hormone

- **Mechanism of Action**
  - Synthetic form of thyroxine, responsible for normal growth and development

- **Therapeutic Indication**
  - Treatment of hypothyroidism

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ProAir HFA (albuterol)

- **Pharmacologic Classification**
  - Short-acting Beta-2 adrenergic agonist

- **Mechanism of Action**
  - Stimulates Beta-2 receptors, relaxes bronchial smooth muscle, producing bronchodilation

- **Therapeutic Indication**
  - Prevention and relief of bronchospasm and exercise-induced bronchospasm
ProAir HFA (albuterol)

- Adverse Effects
  - Headache
  - Tachycardia
  - Pharyngitis
  - Xerostomia

- Precautions
  - Hyperthyroidism
  - Severe cardiac disease

- Dental Considerations
  - Keep short-acting bronchodilators readily available
  - Use NSAIA's with caution
  - Use vasoconstrictors (sulfites) with caution
  - Consider semi-supine chair position

Advair Diskus (fluticasone/salmeterol)

- Pharmacologic Classification
  - A combination of a corticosteroid and long-acting Beta-2 adrenergic agonist

- Mechanism of Action
  - Corticosteroid reduces inflammation and Beta-2 agonist produces bronchodilation

- Therapeutic Indication
  - Prophylaxis and treatment of chronic bronchial asthma

- Adverse Effects
  - Headache
  - Tachycardia
  - Oral candidiasis
  - Xerostomia

- Precautions
  - Not for use in acute asthma or exercise-induced asthma
  - Asthma-related death

- Dental Considerations
  - Rinse after use to minimize risk of candidiasis and fungal pharyngitis
  - Use NSAIA's with caution
  - Use vasoconstrictors (sulfites) with caution

Cymbalta (duloxetine)

- Pharmacologic Classification
  - Antidepressant

- Mechanism of Action
  - Inhibits serotonin and norepinephrine reuptake, increases their activity at their receptors

- Therapeutic Indication
  - Treatment of major depressive disorder
  - Treatment of diabetic neuropathy
  - Treatment of fibromyalgia and chronic muscle pain
Cymbalta (duloxetine)

- **Adverse Effects**
  - Headache
  - Xerostomia
  - GI upset
  - Bruxism

- **Precautions**
  - Increased bleeding
  - Hepatotoxicity
  - Serotonin syndrome
  - Suicidal thoughts

- **Dental Considerations**
  - Increased risk of bleeding events, especially with concurrent use of NSAIA’s, aspirin, warfarin
  - Use epinephrine with caution, monitor blood pressure and pulse

Diovan (valsartan)

- **Pharmacologic Classification**
  - Angiotensin II receptor (AT1) antagonist

- **Mechanism of Action**
  - Inhibits binding of angiotensin II to receptors, produces vasodilation and reduces blood pressure

- **Therapeutic Indication**
  - Treatment of hypertension
  - Treatment of heart failure

- **Adverse Effects**
  - Dizziness
  - Orthostasis
  - GI upset
  - Joint pain

- **Precautions**
  - Hepatic impairment
  - Renal artery stenosis

- **Dental Considerations**
  - Use sedatives and general anesthesia with caution (possible hypotensive episode)
  - Consider short appointments and stress-reduction techniques

Actos (pioglitazone)

- **Pharmacologic Classification**
  - Antidiabetic

- **Mechanism of Action**
  - Reduces skeletal muscle insulin resistance and decrease hepatic glucose output

- **Therapeutic Indication**
  - Treatment of Type II diabetes
Actos (pioglitazone)

- **Adverse Effects**
  - Headache
  - Myopathy
  - Sinusitis
  - Pharyngitis

- **Precautions**
  - Hepatic impairment
  - Renal impairment
  - Increased risk of MI

- **Dental Considerations**
  - No drug-specific
  - Consider susceptibility to infection
  - Consider decreased wound healing
  - Consider AM appointments/stress reduction

Seroquel (quetiapine)

- **Pharmacologic Classification**
  - Psychotherapeutic agent

- **Mechanism of Action**
  - Antagonizes dopamine, serotonin, histamine, and alpha-1 adrenergic receptors, reduces psychoses

- **Therapeutic Indication**
  - Treatment of schizophrenia

- **Adverse Effects**
  - Hypertension
  - Orthostasis
  - Somnolence
  - Xerostomia
  - Weight gain

- **Precautions**
  - Hepatic impairment
  - Renal impairment
  - Tardive dyskinesia
  - Suicidal thoughts

- **Dental Considerations**
  - Prolongs QT interval (caution with vasoconstrictor)
  - Additive sedation with CNS depressants
  - Possible extrapyramidal adverse effects
  - Drug is also used illicitly (“cheeked”)

Levaquin (levofloxacin)

- **Pharmacologic Classification**
  - Fluoroquinolone antiinfective

- **Mechanism of Action**
  - Interferes with bacterial DNA synthesis and cell replication, bactericidal

- **Therapeutic Indication**
  - Treatment of upper/lower respiratory infections
  - Treatment of urinary tract infections
Levaquin (levofloxacin)

- Adverse Effects
  - GI upset
  - Tendonitis
  - CNS side effects
    - Delirium, agitation
    - Memory impairment
- Precautions
  - Hypersensitivity
  - Renal impairment
  - Hypoglycemic coma
- Dental Considerations
  - Prolongs QT interval (caution with vasoconstrictor)
  - May increase NSAIA-induced seizure risk
  - May increase warfarin anticoagulant effect

Lantus (insulin glargine)

- Pharmacologic Classification
  - Long-acting insulin
- Mechanism of Action
  - Facilitates passage of glucose into skeletal and adipose tissue, regulates serum glucose levels
- Therapeutic Indication
  - Treatment of Type I diabetes
  - Treatment of Type II diabetes
- Adverse Effects
  - Fatigue
  - Muscle weakness
  - Skin rash
  - Mouth numbness
- Precautions
  - Hypoglycemia
  - Hypokalemia
- Dental Considerations
  - Additive hypoglycemia with NSAIA’s, salicylates
  - Corticosteroids and epinephrine may increase serum glucose levels
  - Monitor for hypoglycemia, ketoacidosis

Nasonex (mometasone furoate)

- Pharmacologic Classification
  - Nasal corticosteroid
- Mechanism of Action
  - Inhibits release of inflammatory mediators, prevents onset of allergic reaction
- Therapeutic Indication
  - Treatment and prophylaxis of seasonal and perennial allergic rhinitis
Nasonex (mometasone furoate)

- **Adverse Effects**
  - Headache
  - Epistaxis
  - Viral infection
  - Pharyngitis

- **Dental Considerations**
  - Rinse after use to minimize risk of candidiasis and fungal pharyngitis

Viagra (sildenafil)

- **Pharmacologic Classification**
  - PDE Type 5 Inhibitor

- **Mechanism of Action**
  - Inhibits PDE Type 5, results in smooth muscle relaxation and increased blood flow in cavernosum

- **Therapeutic Indication**
  - Treatment of male erectile dysfunction

- **Adverse Effects**
  - Headache
  - Nasal congestion
  - GI upset
  - Possible loss of hearing/vision

- **Precautions**
  - Concurrent use of nitrates
  - Possible interaction with nitrous oxide?

- **Dental Considerations**
  - Drug interactions with erythromycin, fluconazole
  - Possible priapism

Concerta (methylphenidate)

- **Pharmacologic Classification**
  - CNS stimulant

- **Mechanism of Action**
  - Blocks reuptake of norepinephrine and dopamine, increases attention span and mental alertness

- **Therapeutic Indication**
  - Treatment of ADHD
  - Treatment of narcolepsy
**Concerta (methylphenidate)**

- **Adverse Effects**
  - Headache
  - Hypertension
  - GI upset
  - Xerostomia

- **Precautions**
  - Psychiatric disorders
  - Seizure disorders
  - Abuse potential

- **Dental Considerations**
  - Additive CNS stimulation with TCA's, SSRI's
  - Monitor blood pressure and pulse
  - Use vasoconstrictors with caution

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**Spiriva (tiotropium)**

- **Pharmacologic Classification**
  - Anticholinergic bronchodilator

- **Mechanism of Action**
  - Blocks respiratory muscarinic receptors, produces smooth muscle relaxation, bronchodilation

- **Therapeutic Indication**
  - Treatment of bronchospasm associated with COPD

- **Adverse Effects**
  - Sinusitis
  - Pharyngitis
  - Stomatitis
  - Xerostomia

- **Precautions**
  - Not for use in acute asthma or exercise-induced asthma
  - Paradoxical bronchospasm

- **Dental Considerations**
  - Keep short-acting bronchodilator readily available
  - Monitor vital signs, especially respiration
  - Rinse after use to minimize xerostomia
  - Consider semi-supine chair position

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**Effexor XR (venlafaxine)**

- **Pharmacologic Classification**
  - Antidepressant

- **Mechanism of Action**
  - Inhibits serotonin and norepinephrine reuptake, increases their activity at their receptors

- **Therapeutic Indication**
  - Treatment of major depressive disorder
  - Treatment of generalized anxiety disorder
### Effexor XR (venlafaxine)

- **Adverse Effects**
  - Headache
  - Xerostomia
  - GI upset
  - Bruxism
- **Precautions**
  - Increased bleeding
  - Serotonin syndrome
  - Seizure disorder
  - Suicidal thoughts

- **Dental Considerations**
  - Increased risk of bleeding events, especially with concurrent use of NSAIA’s, aspirin, warfarin
  - Use epinephrine with caution, monitor blood pressure and pulse

### Tricor (fenofibrate)

- **Pharmacologic Classification**
  - Antihyperlipidemic
- **Mechanism of Action**
  - Enhances synthesis of lipoprotein lipase, reduces VLDL’s and increases HDL’s
- **Therapeutic Indication**
  - Treatment of high cholesterol

### Questions?

Knowledge of pharmacology has never been more essential to patient care.

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