

Clindamycin phosphate 1.2% / Adapalene 0.15% / Benzoyl peroxide 3.1% Therapeutic Cheat Sheet

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TRADE NAME

- > CABTREO™ (clindamycin phosphate 1.2% / adapalene 0.15% / benzoyl peroxide 3.1%) topical gel
- > Supplied in 20g and 50g tubes and 20g and 50g pumps

MECHANISM OF ACTION

Clindamycin phosphate (1.2%)

- > Lincosamide antibacterial that binds the 50S ribosomal subunit, inhibiting peptide chain elongation and suppressing bacterial protein synthesis.
- > Reduces *Cutibacterium acnes* colonization (note that resistance to clindamycin has been documented).⁴

Adapalene (0.15%)

- > Synthetic naphthoic acid derivative retinoid.
- > Selectively binds retinoic acid nuclear receptors (RAR-β and RAR-γ).
- > Modulates cellular differentiation, keratinization, and inflammatory pathways.
- > Normalizes desquamation and reduces microcomedone formation.

Benzoyl peroxide (3.1%)

- > Oxidizing agent with bactericidal and keratolytic properties.
- > Rapidly converted to benzoic acid in the skin.
- > Reduces *C. acnes* without risk of microbial resistance.

The key to stability of the triple-combination formulation lies in two factors: the inherent chemical stability of adapalene (unlike tretinoin) in the presence of benzoyl peroxide, and the use of a proprietary polymeric mesh gel vehicle that maintains stability and compatibility of all three active ingredients. Collectively, these components target bacterial load, inflammation, and abnormal follicular keratinization.

INACTIVE INGREDIENTS

Carbomer homopolymer type C (carbomer 980), potassium hydroxide, propylene glycol, and purified water.

FDA-APPROVED FOR

- > Topical treatment of acne vulgaris in adult and pediatric patients ≥12 years.
 - Note: phase II and III clinical trials were conducted in patients ≥9 years.^{1,2,5}

DOSING

- > Apply a thin layer (“one pea-sized amount”) once daily to affected areas after gentle cleansing and drying of the skin.

ADMINISTRATION CONSIDERATIONS

- > Apply a thin layer (“one pea-sized amount”) once daily to affected areas after gentle cleansing and drying of the skin.
- > Advise patients to:
 - Wash hands after application.
 - Use non-comedogenic moisturizers to minimize irritation.
 - Avoid concomitant use of irritating topical agents: strong acids, alcohol-based topicals, abrasive scrubs.
 - Avoid waxing of treated areas (or stop use for at least 1 week prior to waxing).
- > May bleach colored fabrics due to benzoyl peroxide.

STORAGE

- > Prior to dispensing, product should be refrigerated (2–8°C / 36–46°F)
- > Once dispensed, patients may keep at room temperature but should use within 10 weeks.

SIDE EFFECTS^{3,6}

Most common (>1%, more frequent than vehicle):

- > Application site reactions:
 - Pain/stinging/burning
 - Erythema
 - Dryness/xerosis
 - Irritation
 - Exfoliation
 - Dermatitis
- > Irritation typically peaks during first 1–2 weeks and improves with continued use.
- > ~2.5% of subjects discontinued due to local skin reactions in trials.
- > Gram-negative folliculitis has been reported (associated with clindamycin)

WARNINGS AND PRECAUTIONS^{3,6}

Colitis

- > Topical clindamycin has been very rarely associated with antibiotic-associated *C.difficile* colitis due to systemic absorption.⁸
- > Discontinue if diarrhea develops; contraindicated for use in patients with IBD.

Photosensitivity

- > Increased UV sensitivity: advise broad-spectrum sunscreen, sun-protective clothing, and avoiding tanning beds.

Drug Interactions

- > Avoid use with erythromycin-containing products (antagonism with clindamycin).
- > Topical clindamycin has been shown to have potential neuromuscular blocking properties that may enhance the action of other neuromuscular blocking agents.
- > Clindamycin is primarily metabolized by the enzymes CYP3A4, with a minor contribution from CYP3A5. Drugs such as rifampin, known to induce CYP3A4, may result in increased metabolism and reduced efficacy of clindamycin.

General Precautions

- > Not for oral, ophthalmic, or intravaginal use.
- > Combination use alongside other topical acne therapies has not been formally studied.
- > Avoid use on sunburned or compromised skin barrier.

PREGNANCY AND BREASTFEEDING

Pregnancy

- > Insufficient human data—risk unknown.
- > Animal data:
 - Clindamycin: no teratogenicity in rats/mice at high systemic exposures.
 - Adapalene: retinoid-class risk at high systemic doses in animal studies.
 - Benzoyl peroxide: minimal systemic absorption

Lactation

- > Unknown if topical combination appears in breast milk.
- > Clindamycin is detectable in milk after oral/parenteral administration.
- > Adapalene found in rat milk at high systemic doses.
- > Clinical recommendations:
 - Use on smallest area for shortest duration.
 - Avoid direct application to the nipple and areola.
 - Avoid infant skin contact with treated areas.

REFERENCES

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