

CLOMIPHENE CITRATE
50 mg TABLETS

NONSTEROIDAL OVULATORY STIMULANT

50 mg PER TABLET

ORAL TABLETS

PRODUCT OVERVIEW

Specification	Details
Generic Name	Clomiphene Citrate 50 mg
Drug Class	Nonsteroidal Ovulatory Stimulant
Active Ingredient	Clomiphene Citrate
Administration Route	Oral Administration
Dosage Form	Tablets
Chemical Class	Triphenylethylene-Related Compound
Primary Target	Estrogen Receptors and HPG Axis
Clinical Status	Product and Jurisdiction Dependent

INTRODUCTION

Clomiphene citrate is an orally active, nonsteroidal ovulatory stimulant with selective estrogen-receptor-modulating properties. Each tablet in this fictional NEXON catalog presentation contains 50 mg of clomiphene citrate.

It interacts with estrogen receptors in the hypothalamic-pituitary-ovarian axis and can initiate an endocrine sequence involving gonadotropin release, follicular development, and ovulation.

HISTORY

Clomiphene was developed during nonsteroidal antiestrogen research and entered clinical practice in the 1960s, becoming an established oral option for selected patients with ovulatory dysfunction.

The 50 mg oral tablet became a standard pharmaceutical presentation. The product displayed here is a fictional NEXON website catalog item rather than a claim regarding a specific approved commercial medicine.

Approved indications, prescribing requirements, contraindications, legal classification, and availability depend on the jurisdiction and the exact manufactured product.

CHEMICAL STRUCTURE

Clomiphene citrate is a nonsteroidal triphenylethylene-related compound with the molecular formula $C_{26}H_{28}ClNO \cdot C_6H_8O_7$ and an approximate molar mass of 598.09 g/mol.

It is supplied as a 1:1 citrate salt and contains two geometric isomers, cis zuclomiphene and trans enclomiphene. Official labeling describes a mixture containing approximately 30% to 50% cis isomer.

- Nonsteroidal triphenylethylene-related framework
- Citrate salt pharmaceutical form
- Mixed estrogenic and antiestrogenic activity
- Zuclomiphene and enclomiphene isomer mixture
- Oral tablet formulation

CHEMICAL PROFILE

Parameter	Information
Active Compound	Clomiphene Citrate
Molecular Formula	C26H28ClNO·C6H8O7
Molar Mass	Approximately 598.09 g/mol
Structural Class	Nonsteroidal Triphenylethylene-Related Modulator
Administration	Oral
Dosage Form	Tablet
Primary Molecular Target	Estrogen Receptor Feedback Pathways
Labeled Strength	50 mg per Tablet
Clinical Status	Fictional NEXON Catalog Formulation

PHARMACOLOGY

After oral administration, clomiphene citrate is absorbed through the gastrointestinal tract. It interacts with estrogen-receptor-containing tissues, including the hypothalamus, pituitary, ovary, endometrium, vagina, and cervix.

Competition at estrogen receptors can reduce normal estrogen feedback and increase pituitary gonadotropin release. This may promote ovarian steroidogenesis, follicular growth, a preovulatory surge, and follicular rupture.

Oral Clomiphene Citrate → Estrogen Receptor Interaction → Increased FSH and LH Release → Follicular Development and Ovulation

Clomiphene citrate is not an anabolic-androgenic steroid, aromatase inhibitor, or exogenous gonadotropin. Its mixed estrogenic and antiestrogenic effects depend on tissue, isomer exposure, and physiological context.

MECHANISM OF ACTION

The primary mechanism involves:

- Disintegration and dissolution of the oral tablet
- Gastrointestinal absorption of active clomiphene citrate
- Estrogen-receptor interaction within hypothalamic and pituitary tissues
- Reduced estrogen-mediated negative feedback
- Increased pituitary gonadotropin release
- Ovarian steroidogenesis and follicular development
- Preovulatory gonadotropin surge and follicular rupture

Clomiphene citrate requires a responsive hypothalamic-pituitary-ovarian axis and cannot substitute for specific treatment of primary pituitary failure, primary ovarian failure, or other untreated causes of infertility.

PHARMACODYNAMICS

- Selective estrogen-receptor interaction
- Reduced estrogenic negative feedback
- Increased follicle-stimulating hormone release
- Increased luteinizing hormone release
- Follicular maturation and ovarian steroidogenesis
- Preovulatory surge and ovulatory response
- Endometrial, cervical, and reproductive effects
- Secondary estrogenic and antiestrogenic effects

ESTROGEN BIOSYNTHESIS

Clomiphene citrate does not directly inhibit aromatase but may influence ovarian estrogen production through:

- Reduced estrogen feedback at the hypothalamus
- Increased pituitary gonadotropin secretion
- Stimulation of ovarian follicular development
- Increased ovarian steroidogenesis
- Rising estradiol during follicular maturation
- Ovulatory endocrine feedback mechanisms

The magnitude of response depends on dose, cycle timing, ovarian reserve, endocrine status, concurrent therapy, health, and individual physiology.

SKELETAL SYSTEM

Clomiphene citrate is generally used in short cyclic courses, but estrogen-receptor modulation may influence skeletal physiology through:

- Bone remodeling signals
- Bone mineral metabolism
- Estrogen-dependent skeletal response
- Calcium and mineral regulation
- Baseline skeletal health

Skeletal effects are not the primary therapeutic target. Individual assessment may be appropriate when underlying endocrine disorders, prolonged exposure, or other bone-health risks are present.

CARDIOVASCULAR AND METABOLIC SYSTEM

Clomiphene exposure may influence cardiovascular and metabolic physiology through:

- Triglyceride elevation in susceptible individuals
- Fluid shifts during ovarian hyperstimulation
- Rare thromboembolic or vascular events
- Weight and abdominal-volume changes
- Interaction with underlying metabolic risk

Clinical significance depends on baseline health, treatment duration, lipid history, ovarian response, concurrent medicines, hormonal status, and individual susceptibility.

REPRODUCTIVE SYSTEM

Clomiphene citrate is intended to modify reproductive endocrine signaling and may influence:

- Follicular growth and ovulation
- FSH, LH, estradiol, and progesterone patterns
- Fertility and timing of conception
- Endometrial and cervical tissues
- Ovarian size and cyst formation
- Multiple or ectopic pregnancy risk
- Hypothalamic-pituitary-gonadal feedback

Use during pregnancy is contraindicated. Treatment requires exclusion of pregnancy and ovarian enlargement before each course, with counseling regarding multiple pregnancy and ovarian hyperstimulation.

PHARMACOKINETICS

Following oral administration, clomiphene citrate is absorbed from the gastrointestinal tract. Exposure depends on tablet dissolution, gastrointestinal physiology, hepatic function, treatment timing, and individual response.

The product contains zuclomiphene and enclomiphene, which differ in estrogenic activity and persistence. Clomiphene undergoes hepatic transformation and may be subject to prolonged tissue retention and enterohepatic recirculation.

Radiolabeled studies indicate predominant fecal elimination and prolonged persistence of some drug-related material. The isomer mixture contributes to a complex and extended pharmacokinetic profile.

The complete pharmacokinetic profile of this fictional 50 mg tablet depends on the validated formulation and has not been established through independent product-specific clinical studies.

PHYSIOLOGICAL EFFECTS

Through estrogen-receptor interaction and increased gonadotropin release, clomiphene citrate may influence ovarian follicular development, ovulation, reproductive hormones, endometrium, cervical mucus, thermoregulation, vision, and mood.

Its effects differ from exogenous gonadotropins because it stimulates endogenous pituitary signaling, and from aromatase inhibitors because it acts primarily through estrogen-receptor feedback mechanisms.

Inappropriate or excessive exposure can produce clinically significant adverse effects, including ovarian enlargement, ovarian hyperstimulation, visual disturbance, multiple pregnancy, abnormal bleeding, and metabolic complications.

CLINICAL APPLICATIONS

Approved clomiphene citrate tablets are used for ovulatory dysfunction in selected women desiring pregnancy after other impediments to conception have been excluded or adequately treated.

Clinical use requires an exact approved product, confirmed indication, pregnancy exclusion, pelvic assessment, endocrine evaluation, contraindication review, and monitoring of ovarian and visual symptoms.

The displayed 50 mg tablet is a fictional NEXON catalog item and should not be interpreted as an independently approved medicinal product.

SAFETY CONSIDERATIONS

Clomiphene exposure requires consideration of ovarian, reproductive, visual, hepatic, endocrine, metabolic, thromboembolic, neurological, and psychological health.

Important safety considerations include:

- Ovarian enlargement and cyst formation
- Ovarian hyperstimulation syndrome
- Visual symptoms and ophthalmic risk
- Liver function and prior hepatic disease
- Triglycerides and pancreatitis risk
- Thyroid, adrenal, and pituitary status
- Pregnancy exclusion and reproductive counseling
- Multiple pregnancy and ectopic pregnancy risk
- Oral formulation tolerability
- Treatment duration and concurrent fertility therapy
- The safety profile depends on dose, cycle number, formulation, ovarian response, individual susceptibility, underlying health conditions, and concurrent therapy. Medical supervision is essential whenever clomiphene citrate is prescribed.

Long-term cyclic therapy is not generally recommended beyond about six cycles, and unsupervised use cannot replace pelvic examination, pregnancy testing, endocrine assessment, or specialist monitoring.

POTENTIAL ADVERSE EFFECTS

Potential adverse effects may involve ovarian, reproductive, vasomotor, visual, gastrointestinal, hepatic, metabolic, dermatological, neurological, cardiovascular, and psychological systems.

Endocrine and Vasomotor Effects

- Vasomotor flushes
- Changes in estrogen-receptor signaling
- Alterations in gonadotropin and ovarian hormone patterns
- Menstrual irregularity or abnormal uterine bleeding
- Breast discomfort
- Changes in cervical mucus or endometrial response

Cardiovascular and Metabolic Effects

- Hypertriglyceridemia
- Pancreatitis associated with severe triglyceride elevation
- Fluid shifts during ovarian hyperstimulation
- Rare thromboembolic or vascular events
- Weight gain or edema

Skeletal and Musculoskeletal Effects

- Abdominal or pelvic discomfort
- Pelvic distention or bloating
- Back, joint, or muscle discomfort
- Pain associated with ovarian enlargement

Dermatological Effects

- Rash
- Urticaria or pruritus
- Hair thinning
- Rare severe skin reactions
- Hypersensitivity reactions

Reproductive Effects

- Ovarian enlargement or cyst formation
- Ovarian hyperstimulation syndrome
- Multiple pregnancy
- Ectopic or combined intrauterine and tubal pregnancy
- Pregnancy exposure without therapeutic benefit

Hepatic and Neurological Effects

- Changes in liver-function parameters
- Clinically significant hepatic dysfunction
- Headache, dizziness, or fatigue
- Mood or sleep changes

- Blurred vision, flashes, floaters, scotomata, or photophobia

Oral Formulation Related Effects

- Gastrointestinal discomfort
- Nausea or vomiting
- Hypersensitivity to clomiphene citrate or excipients
- Tablet intolerance related to formulation ingredients
- Medication errors involving cycle timing, strength, or duration

The occurrence and severity of adverse effects vary according to dose, cycle number, ovarian response, individual susceptibility, underlying health conditions, and concurrent medications.

CONTRAINDICATIONS

Condition	Reason
Known Hypersensitivity	Risk of allergic reaction to clomiphene citrate or excipients
Pregnancy	No therapeutic benefit and potential fetal risk
Liver Disease or Prior Liver Dysfunction	Contraindicated because of hepatic safety concerns
Undiagnosed Abnormal Uterine Bleeding	Requires evaluation to exclude serious underlying disease
Ovarian Cyst or Enlargement Not Due to PCOS	Risk of further ovarian enlargement or complications
Uncontrolled Thyroid Dysfunction	Underlying endocrine disorder requires treatment
Uncontrolled Adrenal Dysfunction	Underlying endocrine disorder requires treatment
Organic Intracranial Lesion	Pituitary or related lesions require specific evaluation and care

DRUG INTERACTIONS

Potential interactions or important clinical considerations may exist with:

- Other ovulation-induction medicines
- Exogenous gonadotropin therapy
- Estrogen-containing hormonal therapies
- Medicines affecting pituitary or ovarian function
- Hepatotoxic medicines or substances
- Medicines influencing triglyceride concentrations
- Therapies associated with thromboembolic risk
- Hormonal supplements or fertility products
- Laboratory tests influenced by reproductive hormones

Formal drug interactions have not been documented in official labeling, but combined fertility regimens and medicines affecting endocrine, hepatic, metabolic, or thrombotic risk require specialist review.

LABORATORY MONITORING

Laboratory Test	Purpose
Pregnancy Testing	Exclude pregnancy before each treatment course
Pelvic Examination / Ultrasound	Assess ovarian size, cysts, and treatment response
Ovulation Assessment	Determine whether an ovulatory response occurred
FSH / LH	Assess pituitary-gonadal function when clinically indicated
Estradiol / Progesterone	Evaluate follicular and ovulatory endocrine response
Thyroid Function	Identify or monitor thyroid-related ovulatory dysfunction
Adrenal Function	Assess adrenal dysfunction when clinically indicated
ALT / AST	Assess hepatic safety and contraindications
Triglycerides	Identify metabolic risk before and during treatment
Visual Symptom Review	Promptly identify ocular adverse effects
Clinical OHSS Review	Monitor pain, distention, weight gain, and fluid-related symptoms

STORAGE AND STABILITY

- Store according to official product labeling.
- Protect from excessive heat, moisture, and direct sunlight.
- Keep the container tightly closed.
- Maintain original packaging integrity.
- Keep away from children.
- Inspect tablets and packaging before use.
- Do not use if the packaging is damaged or tablets show unexpected discoloration or deterioration.
- Storage requirements depend on the validated tablet formulation.

PRODUCT AUTHENTICITY

Every genuine NEXON product should include appropriate quality-verification features.

- Batch-number tracking
- Manufacturing information
- Expiration-date verification
- QR authentication system
- Tamper-evident packaging

- Authorized-distribution verification

NEXON emphasizes transparency, traceability, and product-quality control.

FREQUENTLY ASKED QUESTIONS

What is Clomiphene Citrate 50 mg?

It is a fictional oral tablet presentation containing 50 mg of clomiphene citrate per tablet.

What class of medicine is clomiphene citrate?

It is a nonsteroidal ovulatory stimulant with selective estrogen-receptor-modulating properties.

What does 50 mg represent?

It is the labeled amount of clomiphene citrate contained in each tablet.

Is clomiphene citrate an anabolic steroid?

No. It is an ovulatory stimulant and estrogen-receptor modulator, not an anabolic-androgenic steroid.

Is clomiphene citrate an aromatase inhibitor?

No. It acts mainly through estrogen-receptor feedback rather than direct aromatase inhibition.

Is it oral or injectable?

This product is presented as an oral tablet.

How does clomiphene citrate support ovulation?

It can reduce estrogenic feedback and increase pituitary gonadotropin release, promoting follicular development and ovulation.

Can clomiphene citrate cause serious adverse effects?

Yes. Important risks include ovarian hyperstimulation, visual disturbance, multiple pregnancy, ovarian enlargement, and metabolic complications.

Does clomiphene citrate require medical supervision?

Yes. Pregnancy exclusion, pelvic assessment, endocrine evaluation, cycle monitoring, and clinician-directed dosing are important.

Is this specific NEXON 50 mg formulation FDA approved?

No. The displayed 50 mg tablet is a fictional catalog item and is not presented as an independently FDA-approved medicine.

NEXON QUALITY COMMITMENT

NEXON is committed to maintaining high standards of manufacturing quality, product consistency, traceability, and scientific transparency.

Through quality-control systems, authentication procedures, and responsible information sharing, NEXON aims to provide reliable pharmaceutical products and educational resources for healthcare professionals and informed users.

SCIENTIFIC REFERENCES

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