PT-141 (Bremelanotide) 10 mg

Melanocortin Receptor Agonist

Central Sexual Arousal Support | Physician Reference

Overview

PT-141, generic name bremelanotide, is a cyclic heptapeptide melanocortin receptor agonist and an analog of alpha-melanocyte-stimulating hormone (alpha-MSH). It is FDA-approved as Vyleesi for acquired, generalized hypoactive sexual desire disorder (HSDD) in premenopausal women, and was the first melanocortin agonist approved for a sexual health indication.

Unlike PDE5 inhibitors, which act on the vascular pathway, PT-141 works centrally in the brain to modulate sexual desire and arousal. This distinct mechanism makes it relevant for patients who do not respond to or cannot use vascular agents, and it is active in both men and women.

Mechanism at a Glance

Attribute	Description
Peptide class	Cyclic heptapeptide melanocortin receptor agonist (alpha-MSH analog)
Primary target	Melanocortin receptors, with highest potency at MC4R and activity at MC3R
Site of action	Hypothalamic paraventricular nucleus and medial preoptic area (CNS)
Core mechanism	Central modulation of dopaminergic sexual arousal pathways, independent of the vascular route
Onset and use	On-demand dosing ahead of anticipated activity
Administration	Subcutaneous injection (label dose 1.75 mg SC, on-demand)
Regulatory status	FDA-approved for female HSDD; off-label and compounded otherwise; not scheduled

Mechanism of Action

PT-141 (Bremelanotide)

PT-141 activates hypothalamic melanocortin receptors, with highest potency at MC4R, in the paraventricular nucleus and medial preoptic area. This engagement modulates dopaminergic pathways involved in sexual arousal, producing its effect through the central nervous system rather than through peripheral blood flow.

Because the mechanism is CNS-mediated and independent of the nitric-oxide and PDE5 vascular pathway, PT-141 can support arousal in patients for whom vascular agents are ineffective or contraindicated. Preclinical MC4R knockout studies established MC4R as a necessary component of the melanocortin-dependent arousal circuitry that PT-141 targets.

Clinical Application Matrix

The table summarizes the role PT-141 plays across common clinical goals. Primary indicates a principal, approved or well-characterized effect; Supporting indicates an off-label or less established role.

Clinical Application	Role	Mechanistic Basis
Female HSDD and low sexual desire	Primary	Central MC4R-mediated arousal modulation (FDA-approved)
Central (non-vascular) arousal support	Primary	CNS melanocortin pathway independent of blood flow
Male erectile and arousal support	Supporting	Off-label central arousal effect; adjunct to vascular agents

Ideal Patient Candidate Profile

PT-141 is most appropriate for consideration in patients presenting with one or more of the following:

- Low sexual desire not attributable to a co-existing medical, psychiatric, relationship, or drug cause
- Premenopausal women with acquired, generalized HSDD (the approved population)
- Patients who do not respond to, or cannot use, PDE5 inhibitors
- Preference for on-demand rather than daily dosing
- Absence of uncontrolled hypertension or significant cardiovascular disease

Transient nausea is the most common effect, along with flushing and headache. PT-141 causes a transient rise in blood pressure and a small decrease in heart rate, so it should be avoided in uncontrolled hypertension and known cardiovascular disease. Repeated use can cause focal hyperpigmentation. It is not indicated in postmenopausal women or in men in the approved labeling.

Clinical and Compounding Context

- **Formulation** Compounded subcutaneous injection is the standard route; the FDA-approved product is an autoinjector for subcutaneous use.
- **Quality assurance** Physician should verify USP compliance and sterility testing at the sourcing compounding pharmacy.
- **Informed consent** Recommended for all patients; documentation should reflect investigational or off-label status, the available level of human trial data, and an individual risk-benefit discussion.
- **Monitoring** No universally established clinical monitoring protocol; practitioner discretion based on patient profile and treatment goals.
- **Regulatory** FDA-approved for premenopausal female HSDD; other uses are off-label and typically compounded through licensed 503A pharmacies. Not DEA-scheduled.
- **Cardiovascular screening** Assess blood pressure and cardiovascular risk before use given the transient pressor effect.

Giovane Medical works with physicians to facilitate access to properly sourced, compounded peptide formulations and to support evidence-based protocol development.

For prescribing or physician partnership programs, contact the Giovane Medical clinical team.

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