COMPOUND GUIDE

PT-141 — Bremelanotide (Vyleesi)

MC3R/MC4R agonist · FDA approved for HSDD (premenopausal women) · SubQ injection

Quick Start

FDA APPROVED — WOMEN WITH HSDD ONLY

Bremelanotide (Vyleesi) was FDA approved on **June 21, 2019** for premenopausal women with acquired, generalised Hypoactive Sexual Desire Disorder (HSDD). The FDA label specifies this indication only. Use in men, postmenopausal women, or any other context is investigational. For research purposes, all uses outside the approved label are investigational.

WHAT IT IS

PT-141 (Bremelanotide) is a synthetic cyclic heptapeptide melanocortin receptor agonist derived from Melanotan II. Unlike MT-II, PT-141 has minimal tanning effect. It was approved as Vyleesi by Palatin Technologies for HSDD — the first centrally acting drug for female sexual dysfunction. It acts in the brain, not on genitalia.

APPROVED DOSING (VYLEESI)

1.75 mg SubQ, administered at least 45 minutes before anticipated sexual activity. Maximum one dose per 24 hours; maximum 8 doses per month. Do not take with alcohol. Inject in abdomen or thigh. Auto-injector device (Vyleesi) or research vial reconstitution for investigational use.

REGULATORY STATUS

FDA approved (Vyleesi) June 21, 2019. Approved indication: premenopausal women with acquired generalised HSDD. Not approved for: men, postmenopausal women, or any other indication. No WADA ban. For research purposes only in non-approved contexts.

Dosing Protocol

CONTEXT	DOSE	TIMING	LIMITS
Vyleesi (approved)	1.75 mg	≥45 min before activity	Max 1/24h; max 8/month
Research (investigational)	1.0–1.75 mg	≥45 min before activity	Same frequency limits apply in research protocols

DO NOT COMBINE WITH MELANOTAN II

PT-141 and Melanotan II both act on melanocortin receptors (MC1R, MC3R, MC4R). Combining them risks additive melanocortin side effects including significant nausea, vomiting, facial flushing, and blood pressure elevation. They should not be used together.

Supplies & Reconstitution (Research Vials)

Reconstitution Math — 10 mg Vial (3 mL BAC)

TARGET DOSE	UNITS (U-100)	DOSES / VIAL
0.5 mg	**15.0 units**	20
1 mg	**30.0 units**	10
1.5 mg	**45.0 units**	6.7
2 mg	**60.0 units**	5

Reconstitute the 10 mg vial with **3.0 mL bacteriostatic water** → 3.33 mg/mL. U-100 syringe = 100 units per mL. Swirl gently — do not shake. Refrigerate 2–8°C.

Reconstitution Steps

01 **Warm the vial**
Allow lyophilised vial to reach room temperature before reconstitution.

02 **Swab and draw**
Alcohol swab both vial tops, air-dry. Draw 3.0 mL BAC water.

03 **Inject along the wall**
Let BAC water run slowly down the inside wall. Do not jet onto the powder.

04 **Swirl gently**
Swirl until clear. Do not shake. Solution should be clear to light yellow.

05 **Refrigerate**
Store at 2–8°C for up to 30 days. Protect from light. Do not freeze after reconstitution.

Mechanism of Action

MC3R / MC4R AGONISM (BRAIN)

Activates MC3R and MC4R melanocortin receptors in the paraventricular nucleus (PVN) of the hypothalamus and other limbic regions. These receptors modulate sexual response and reward circuits — the mechanism is central, not peripheral.

OXYTOCIN PATHWAY

MC4R activation in the PVN stimulates oxytocin neurons, which project to limbic and spinal circuits involved in arousal and sexual response. Proposed as a key downstream mediator of PT-141's mechanism of action.

NO DIRECT GENITAL EFFECT

Unlike PDE5 inhibitors (sildenafil, tadalafil) which act on genital vasculature, PT-141 acts centrally in the brain. Effect onset is not linked to manual stimulation. Approved for use ≥45 min before anticipated activity — not acutely on demand like PDE5i.

BLOOD PRESSURE EFFECTS

Can cause transient blood pressure elevation (mean +6.1 mmHg systolic, 3.8 mmHg diastolic in Phase 3). This is an approved label warning and contraindicates use with antihypertensives or cardiovascular disease in clinical contexts.

Key Research

STUDY	DESIGN	KEY FINDING
RECONNECT 1 (Kingsberg 2019)	Phase 3 RCT; premenopausal women with HSDD; n=~600; 24 weeks	Significant improvement in desire score and distress vs placebo; nausea most common AE (40%)
RECONNECT 2 (Kingsberg 2019)	Phase 3 RCT; same design; n=~600; 24 weeks	Confirmed RECONNECT 1 findings; formed FDA approval basis
Combined RECONNECT meta	n=~1,200 women	~0.5 additional satisfying sexual events/month; statistically significant

Storage

STATE	TEMPERATURE	DURATION	NOTES
Lyophilised (powder)	−20°C (freezer)	Up to 24 months	Protect from light and moisture
Reconstituted (liquid)	2–8°C (refrigerator)	Up to 30 days	Do not freeze after reconstitution; protect from light