HeartLink Health LLC – Algorithm v4.1-CL (ASE 1.3)

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# Software Requirements Specification (SRS)

## Purpose and Scope

Define the functional and performance requirements for the HeartLink Adaptive Stability Engine (ASE) version 1.3, Clinical-Lock configuration (v4.1‑CL).

## System Overview

HeartLink ASE analyzes daily self‑reported symptoms and weight to compute a Stability Severity Index (SSI) and color‑coded status (Green–Red).

## Functional Requirements

Inputs: sobLevel, edemaLevel, fatigueLevel (0–3), orthopnea flag, weightToday.  
Outputs: numeric SSI 0–10, category string.  
Core Functions: delta computation, EMA smoothing, de‑escalation clamp, noise guard.

## Performance Requirements

Target accuracy ≥ 90 %; false‑alert ≤ 0.5 %; ping‑pong ≤ 1 %; drift stability ± 0.05 normalized.

## Constraints and Interfaces

Runs on‑device (Expo/React Native). No external network dependency. Stores only non‑identifiable local data.

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