HealthKit cheat sheet

Common identifiers, units and permission gotchas, from Apple's documentation

Apple's docs read 2026-10-02
developer.apple.com/documentation/healthkit

ACTIVITY

HKQuantityTypeIdentifier	Aggregation	Unit family	iOS
`.stepCount`	cumulative	count	8.0
`.distanceWalkingRunning`	cumulative	length	8.0
`.distanceCycling`	cumulative	length	8.0
`.activeEnergyBurned`	cumulative	energy	8.0
`.basalEnergyBurned`	cumulative	energy	8.0
`.flightsClimbed`	cumulative	count	8.0
`.appleExerciseTime`	cumulative	time	9.3

HEART AND FITNESS

HKQuantityTypeIdentifier	Aggregation	Unit family	iOS
`.heartRate`	discrete	count/time	8.0
`.restingHeartRate`	discrete	count/time	11.0
`.walkingHeartRateAverage`	discrete	count/time	11.0
`.heartRateVariabilitySDNN`	discrete	time	11.0
`.oxygenSaturation`	discrete	percent	8.0
`.respiratoryRate`	discrete	count/time	8.0
`.vo2Max`	discrete	volume/mass/time	11.0

BODY AND NUTRITION

HKQuantityTypeIdentifier	Aggregation	Unit family	iOS
`.bodyMass`	discrete	mass	8.0
`.height`	discrete	length	8.0
`.bodyMassIndex`	discrete	count	8.0
`.bodyFatPercentage`	discrete	percent	8.0
`.leanBodyMass`	discrete	mass	8.0
`.dietaryEnergyConsumed`	cumulative	energy	8.0
`.dietaryWater`	cumulative	volume	9.0

CATEGORY TYPES: DECODE WITH THE VALUE ENUM

HKCategoryTypeIdentifier	Value enum	iOS
`.sleepAnalysis`	`HKCategoryValueSleepAnalysis`	8.0
`.mindfulSession`	`HKCategoryValue`	10.0
`.appleStandHour`	`HKCategoryValueAppleStandHour`	9.0
`.menstrualFlow`	`HKCategoryValueMenstrualFlow`	9.0

SUM OR AVERAGE

Cumulative types are summed (`.cumulativeSum`), discrete types averaged (`.discreteAverage`) in `HKStatisticsQuery`. Apple states it in prose:

> These samples use count units and measure cumulative values.

> These samples use count/time units and measure discrete values.

Apple's sentences, with the empty "(described in …)" its inline links leave removed.

UNITS

Percent is a fraction. Apple on `HKUnit.percent()`:

> Percent measures a value between 0.0 and 1.0.

HealthKit's percent unit is a fraction (0.0–1.0); Health Connect and the Google Health API state 0–100. Mixing them is the classic 0.23-percent body-fat bug.

HRV IS NOT THE SAME NUMBER

The HRV Apple Watch records into HealthKit is SDNN, while Health Connect's record is RMSSD. They are different measures and are not interconvertible — do not normalize one into the other.

From this site's HealthKit ↔ Health Connect matrix, https://aifitnessapi.com/matrix

PERMISSION AND AVAILABILITY ERRORS

`.errorHealthDataUnavailable`

> The user accessed HealthKit on an unsupported device.

`.errorHealthDataRestricted`

> A Mobile Device Management (MDM) profile restricts the use of HealthKit on this device.

`.errorAuthorizationNotDetermined`

> The app hasn't yet asked the user for the authorization required to complete the task. This error occurs when your app doesn't request proper authorization before calling any other HealthKit methods.

`.errorAuthorizationDenied`

> The user hasn't given the app permission to save data. This error occurs only when your app attempts to save data.

READ-ONLY: APPS CANNOT SAVE THESE

`.appleSleepingWristTemperature`, `.appleWalkingSteadiness`, `.appleWalkingSteadinessEvent`, `.atrialFibrillationBurden`, `.environmentalAudioExposureEvent`, `.highHeartRateEvent`, `.infrequentMenstrualCycles`, `.irregularHeartRhythmEvent`, `.irregularMenstrualCycles`, `.lowCardioFitnessEvent`, `.lowHeartRateEvent`, `.persistentIntermenstrualBleeding`, `.prolongedMenstrualPeriods`, `.walkingHeartRateAverage`.

> These samples are read-only.

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