# --- Cardiovascular Health ---

total\_cholesterol:

  type: Cardiovascular Health

  units: mg/dL

  direction: lower\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Optimal

      range: "<200"

      score: 10

    - label: Borderline High

      range: "200-239"

      score: linear:7-0

    - label: High

      range: ">240"

      score: 0

ldl:

  type: Cardiovascular Health

  units: mg/dL

  direction: lower\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Optimal

      range: "<100"

      score: 10

    - label: Near-Optimal

      range: "100-119.99"

      score: linear:7-5.25

    - label: Borderline High

      range: "120-139.99"

      score: linear:5.25-3.5

    - label: High

      range: "140-159.99"

      score: linear:3.5-1.75

    - label: Very High

      range: "160-189.99"

      score: linear:1.75-0

    - label: Critically High

      range: ">=190"

      score: 0

hdl\_male:

  type: Cardiovascular Health

  units: mg/dL

  direction: higher\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Critically Low

      range: "<40"

      score: 0

    - label: Suboptimal

      range: "40-59.99"

      score: linear:0-7

    - label: Optimal

      range: "60-90"

      score: 10

hdl\_female:

  type: Cardiovascular Health

  units: mg/dL

  direction: higher\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Critically Low

      range: "<50"

      score: 0

    - label: Suboptimal

      range: "50-59.99"

      score: linear:0-7

    - label: Optimal

      range: "60-90"

      score: 10

lp(a):

  type: Cardiovascular Health

  units: nmol/L

  direction: lower\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Optimal

      range: "<30"

      score: 10

    - label: Borderline High

      range: "30-49.99"

      score: linear:7-3.5

    - label: High

      range: "50-119.99"

      score: linear:3.5-0

    - label: Very High

      range: ">=120"

      score: 0

triglycerides:

  type: Cardiovascular Health

  units: mg/dL

  direction: lower\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Optimal

      range: "<80"

      score: 10

    - label: Near-Optimal

      range: "80-99.99"

      score: linear:7-5.25

    - label: Borderline High

      range: "100-149.99"

      score: linear:5.25-3.5

    - label: High

      range: "150-199.99"

      score: linear:3.5-1.75

    - label: Very High

      range: "200-499.99"

      score: linear:1.75-0

    - label: Critically High

      range: ">=500"

      score: 0

apob:

  type: Cardiovascular Health

  units: mg/dL

  direction: lower\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Optimal

      range: "<80"

      score: 10

    - label: Borderline High

      range: "80-89.99"

      score: linear:7-5.25

    - label: High

      range: "90-99.99"

      score: linear:5.25-3.5

    - label: Very High

      range: "100-119.99"

      score: linear:3.5-0

    - label: Critically High

      range: ">=120"

      score: 0

omega3\_index:

  type: [Cardiovascular Health, Cognition]

  units: "%"

  direction: higher\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Critically Low

      range: "<4"

      score: 0

    - label: Suboptimal

      range: "4-7.99"

      score: linear:0-7

    - label: Optimal

      range: "8-12"

      score: 10

rdw:

  type: [Cardiovascular Health, Immune/Renal, Endurance]

  units: "%"

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Critically Low

      range: "<11.0"

      score: 0

    - label: Suboptimal Low

      range: "11.0-11.99"

      score: linear:0-7

    - label: Optimal

      range: "12.0-13.5"

      score: 10

    - label: Suboptimal High

      range: "13.51-14.5"

      score: linear:7-3.5

    - label: High

      range: "14.51-15.5"

      score: linear:3.5-0

    - label: Critically High

      range: ">15.5"

      score: 0

# --- Sleep ---

magnesium\_rbc:

  type: Sleep

  units: mg/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Severe Deficiency

      range: "<3.5"

      score: 0

    - label: Suboptimal

      range: "3.5-4.19"

      score: linear:0-3.5

    - label: In-Range

      range: "4.2-5.99"

      score: linear:3.5-7

    - label: Optimal

      range: "6-7.5"

      score: 10

vitamin\_d:

  type: Sleep

  units: ng/mL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Deficient

      range: "<20"

      score: 0

    - label: Insufficient

      range: "20-29.99"

      score: linear:0-3.5

    - label: Sufficient

      range: "30-39.99"

      score: linear:3.5-7

    - label: Optimal

      range: "40-60"

      score: 10

    - label: Elevated

      range: "60.01-80"

      score: linear:7-3.5

    - label: High

      range: "80.01-100"

      score: linear:3.5-0

    - label: Toxic

      range: ">100"

      score: 0

serum\_ferritin:

  type: [Sleep, Endurance]

  units: ng/mL

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Deficient

      range: "<30"

      score: 0

    - label: Suboptimal Low

      range: "30-49.99"

      score: linear:0-7

    - label: Optimal

      range: "50-100"

      score: 10

    - label: Suboptimal High

      range: "100.01-150"

      score: linear:7-3.5

    - label: High

      range: "150.01-200"

      score: linear:3.5-0

    - label: Excess

      range: ">200"

      score: 0

total\_iron\_binding\_capacity:

  type: [Sleep, Endurance]

  units: µg/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Low

      range: "<200"

      score: 0

    - label: Borderline Low

      range: "200-239.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "240-249.99"

      score: linear:3.5-7

    - label: Optimal

      range: "250-310"

      score: 10

    - label: In-Range (High)

      range: "310.01-450"

      score: linear:7-3.5

    - label: Borderline High

      range: "450.01-470"

      score: linear:3.5-0

    - label: High

      range: ">470"

      score: 0

transferrin\_saturation:

  type: [Sleep, Endurance]

  units: "%"

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Low

      range: "<15"

      score: 0

    - label: Borderline Low

      range: "15-19.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "20-24.99"

      score: linear:3.5-7

    - label: Optimal

      range: "25-35"

      score: 10

    - label: In-Range (High)

      range: "35.01-40"

      score: linear:7-3.5

    - label: Borderline High

      range: "40.01-50"

      score: linear:3.5-0

    - label: High

      range: ">50"

      score: 0

hscrp:

  type: [Sleep, Inflammation]

  units: mg/L

  direction: lower\_better

  pillars: [Stress, Sleep, Nutrition, Connection]

  ranges:

    - label: Optimal

      range: "0-0.3"

      score: 10

    - label: Low Risk

      range: "0.31-1.0"

      score: linear:7-5.25

    - label: Moderate Risk

      range: "1.01-3.0"

      score: linear:5.25-2.625

    - label: High Risk

      range: "3.01-10"

      score: linear:2.625-0

    - label: Very High Risk

      range: ">10"

      score: 0

# --- Inflammation ---

wbc:

  type: [Inflammation, Immune/Renal]

  units: x10^9/L

  direction: optimal\_range

  pillars: [Stress, Sleep, Nutrition, Movement]

  ranges:

    - label: Significantly Low

      range: "<3.0"

      score: 0

    - label: Mildly Low

      range: "3.0-3.59"

      score: linear:0-3.5

    - label: In-Range (Lower)

      range: "3.6-3.99"

      score: linear:3.5-7

    - label: Optimal

      range: "4.0-7.0"

      score: 10

    - label: In-Range (Upper)

      range: "7.01-10.0"

      score: linear:7-3.5

    - label: Mildly Elevated

      range: "10.01-12.0"

      score: linear:3.5-0

    - label: Significantly High

      range: ">12.0"

      score: 0

neutrophils:

  type: Inflammation

  units: x10^9/L

  direction: optimal\_range

  pillars: [Stress, Sleep, Nutrition, Movement]

  ranges:

    - label: Severe Neutropenia

      range: "<1.0"

      score: 0

    - label: Mild Neutropenia

      range: "1.0-1.79"

      score: linear:0-3.5

    - label: In-Range (Lower)

      range: "1.8-2.49"

      score: linear:3.5-7

    - label: Optimal

      range: "2.5-5.5"

      score: 10

    - label: In-Range (Upper)

      range: "5.51-7.0"

      score: linear:7-3.5

    - label: Mild Neutrophilia

      range: "7.01-10.0"

      score: linear:3.5-0

    - label: Severe Neutrophilia

      range: ">10.0"

      score: 0

lymphocytes:

  type: Inflammation

  units: x10^9/L

  direction: optimal\_range

  pillars: [Stress, Sleep, Nutrition, Movement]

  ranges:

    - label: Severe Lymphopenia

      range: "<0.5"

      score: 0

    - label: Mild Lymphopenia

      range: "0.5-0.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "1.0-1.49"

      score: linear:3.5-7

    - label: Optimal

      range: "1.5-3.5"

      score: 10

    - label: In-Range (High)

      range: "3.51-4.5"

      score: linear:7-3.5

    - label: Elevated

      range: "4.51-5.5"

      score: linear:3.5-0

    - label: Critically Elevated

      range: ">5.5"

      score: 0

neut\_lymph\_ratio:

  type: Inflammation

  units: ratio

  direction: optimal\_range

  pillars: [Stress, Sleep, Nutrition, Movement]

  ranges:

    - label: Critically Low

      range: "<0.5"

      score: 0

    - label: Mildly Low

      range: "0.5-0.79"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "0.8-0.99"

      score: linear:3.5-7

    - label: Optimal

      range: "1.0-2.5"

      score: 10

    - label: In-Range (High)

      range: "2.51-3.5"

      score: linear:7-3.5

    - label: Mildly Elevated

      range: "3.51-5.0"

      score: linear:3.5-0

    - label: Critically Elevated

      range: ">5.0"

      score: 0

eosinophils:

  type: Inflammation

  units: /µL

  direction: optimal\_range

  pillars: [Stress, Sleep, Nutrition, Movement]

  ranges:

    - label: Very Low

      range: "<50"

      score: 0

    - label: In-Range (Low)

      range: "50-99.99"

      score: linear:0-7

    - label: Optimal

      range: "100-300"

      score: 10

    - label: In-Range (High)

      range: "30.01-500"

      score: linear:7-5.25

    - label: Mild Eosinophilia

      range: "500.01-1500"

      score: linear:5.25-2.625

    - label: Moderate Eosinophilia

      range: "1500.01-5000"

      score: linear:2.625-0

    - label: Severe Eosinophilia

      range: ">5000"

      score: 0

# --- Metabolism ---

hba1c:

  type: [Metabolism, Cognition]

  units: "%"

  direction: lower\_better

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Critically Low

      range: "<4.2"

      score: 0

    - label: Suboptimal Low

      range: "4.2-4.59"

      score: linear:0-3.5

    - label: Optimal

      range: "4.6-5.2"

      score: 10

    - label: In-Range (High)

      range: "5.21-5.6"

      score: linear:7-3.5

    - label: Prediabetes

      range: "5.61-6.4"

      score: linear:3.5-0

    - label: Diabetes

      range: ">=6.5"

      score: 0

fasting\_glucose:

  type: Metabolism

  units: mg/dL

  direction: lower\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Critically Low

      range: "<60"

      score: 0

    - label: Suboptimal Low

      range: "60-69.9"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "70-84.9"

      score: linear:3.5-7

    - label: Optimal

      range: "85-90"

      score: 10

    - label: In-Range (High)

      range: "90.01-99"

      score: linear:7-3.5

    - label: Impaired Fasting Glucose

      range: "100-125"

      score: linear:3.5-0

    - label: Diabetes

      range: ">=126"

      score: 0

fasting\_insulin:

  type: Metabolism

  units: µU/mL

  direction: optimal\_range

  pillars: [Nutrition, Movement]

  ranges:

    - label: Critically Low

      range: "<1.0"

      score: 0

    - label: Suboptimal Low

      range: "1.0-1.99"

      score: linear:0-7

    - label: Optimal

      range: "2.0-6.0"

      score: 10

    - label: In-Range

      range: "6.01-10.0"

      score: linear:7-5.25

    - label: Elevated

      range: "10.01-15.0"

      score: linear:5.25-2.625

    - label: High

      range: "15.01-25.0"

      score: linear:2.625-0

    - label: Severe Elevation

      range: ">25.0"

      score: 0

homa\_ir:

  type: Metabolism

  units: ""

  direction: lower\_better

  pillars: [Nutrition, Movement]

  ranges:

    - label: Critically Low

      range: "<0.5"

      score: 0

    - label: Suboptimal Low

      range: "0.5-0.99"

      score: linear:0-7

    - label: Optimal

      range: "1.0-1.8"

      score: 10

    - label: Mild Resistance

      range: "1.81-2.5"

      score: linear:7-5.25

    - label: Moderate Resistance

      range: "2.51-3.5"

      score: linear:5.25-2.625

    - label: Significant Resistance

      range: "3.51-4.0"

      score: linear:2.625-0

    - label: Diabetes Risk

      range: ">4.0"

      score: 0

alt\_male:

  type: Metabolism

  units: U/L

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<10"

      score: 0

    - label: Optimal

      range: "10.0-25.0"

      score: 10

    - label: In-Range

      range: "25.01-40.0"

      score: linear:7-5.25

    - label: Mild Elevation

      range: "40.01-65"

      score: linear:5.25-3.5

    - label: Moderate Elevation

      range: "65.01-100"

      score: linear:3.5-1.75

    - label: Severe Elevation

      range: "100.01-120"

      score: linear:1.75-0

    - label: Critically High

      range: ">120"

      score: 0

alt\_female:

  type: Metabolism

  units: U/L

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<7.0"

      score: 0

    - label: Optimal

      range: "7.0-20.0"

      score: 10

    - label: In-Range

      range: "20.01-30.0"

      score: linear:7-5.25

    - label: Mild Elevation

      range: "30.01-50"

      score: linear:5.25-3.5

    - label: Moderate Elevation

      range: "50.01-80"

      score: linear:3.5-1.75

    - label: Severe Elevation

      range: "80.01-100"

      score: linear:1.75-0

    - label: Critically High

      range: ">100"

      score: 0

ggt\_male:

  type: Metabolism

  units: U/L

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<5"

      score: 0

    - label: Suboptimal Low

      range: "5-9.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "10-19.99"

      score: linear:3.5-7

    - label: Optimal

      range: "20-30"

      score: 10

    - label: In-Range (High)

      range: "30.01-40"

      score: linear:7-3.5

    - label: Mild Elevation

      range: "40.01-60"

      score: linear:3.5-0

    - label: High

      range: ">60"

      score: 0

ggt\_female:

  type: Metabolism

  units: U/L

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<5"

      score: 0

    - label: Suboptimal Low

      range: "5-9.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "10-19.99"

      score: linear:3.5-7

    - label: Optimal

      range: "20-30"

      score: 10

    - label: In-Range (High)

      range: "30.01-40"

      score: linear:7-3.5

    - label: Mild Elevation

      range: "40.01-60"

      score: linear:3.5-0

    - label: High

      range: ">60"

      score: 0

testosterone\_male:

  type: [Metabolism, Fitness]

  units: ng/dL

  direction: optimal\_range

  pillars: [Stress, Sleep, Movement]

  ranges:

    - label: Severely Low Testosterone

      range: "<264"

      score: 0

    - label: Borderline Low

      range: "264-299"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "300-399"

      score: linear:3.5-7

    - label: In-Range (High)

      range: "800.01-899"

      score: linear:7-3.5

    - label: Borderline High

      range: "900-999"

      score: linear:3.5-0

    - label: Excessively High

      range: ">=1000"

      score: 0

    - label: Optimal

      range: "500-800"

      score: 10

testosterone\_female:

  type: [Metabolism, Fitness]

  units: ng/dL

  direction: optimal\_range

  pillars: [Stress, Sleep, Movement]

  ranges:

    - label: Severely Low

      range: "<6"

      score: 0

    - label: Borderline Low

      range: "6-9.99"

      score: linear:0-7

    - label: Optimal

      range: "15-50"

      score: 10

    - label: In-Range (High)

      range: "50.01-60"

      score: linear:7-3.5

    - label: Borderline High

      range: "60.01-70"

      score: linear:3.5-0

    - label: Excessively High

      range: ">70"

      score: 0

uric\_acid\_male:

  type: Metabolism

  units: mg/dL

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<2.0"

      score: 0

    - label: Low Uric Acid

      range: "2.0-2.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "3.0-3.99"

      score: linear:3.5-7

    - label: Optimal

      range: "4.0-5.0"

      score: 10

    - label: In-Range (High)

      range: "5.01-6.5"

      score: linear:7-3.5

    - label: Mild Hyperuricemia

      range: "6.51-7.2"

      score: linear:3.5-0

    - label: Severe Hyperuricemia

      range: ">7.2"

      score: 0

uric\_acid\_female:

  type: Metabolism

  units: mg/dL

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<1.5"

      score: 0

    - label: Low Uric Acid

      range: "1.5-1.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "2.0-2.99"

      score: linear:3.5-7

    - label: Optimal

      range: "3.0-4.5"

      score: 10

    - label: In-Range (High)

      range: "4.51-5.5"

      score: linear:7-3.5

    - label: Mild Hyperuricemia

      range: "5.51-6.0"

      score: linear:3.5-0

    - label: Severe Hyperuricemia

      range: ">6.0"

      score: 0

alkaline\_phosphatase:

  type: [Metabolism, Immune/Renal, Recovery]

  units: U/L

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<20"

      score: 0

    - label: Suboptimal Low

      range: "20-39.99"

      score: linear:0-7

    - label: Optimal

      range: "40-90"

      score: 10

    - label: Mildly Elevated

      range: "90.01-120"

      score: linear:7-5.25

    - label: Moderately Elevated

      range: "120.01-150"

      score: linear:5.25-2.625

    - label: High

      range: "150.01-180"

      score: linear:2.625-0

    - label: Critically High

      range: ">180"

      score: 0

# --- Immune/Renal ---

albumin:

  type: [Immune/Renal, Recovery]

  units: g/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Severe Hypoalbuminemia

      range: "<2.5"

      score: 0

    - label: Hypoalbuminemia

      range: "2.5-2.99"

      score: linear:0-3.5

    - label: Mildly Low

      range: "3.0-3.49"

      score: linear:3.5-7

    - label: In-Range (Low)

      range: "3.5-3.99"

      score: linear:3.5-7

    - label: Optimal

      range: "4.0-5.0"

      score: 10

    - label: High

      range: "5.01-5.5"

      score: linear:7-0

    - label: Very High

      range: ">5.5"

      score: 0

serum\_protein:

  type: Immune/Renal

  units: g/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Severe Hypoproteinemia

      range: "<5.0"

      score: 0

    - label: Mildly Low

      range: "5.0-5.49"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "5.5-5.99"

      score: linear:3.5-7

    - label: Normal

      range: "6.0-6.79"

      score: linear:3.5-7

    - label: Optimal

      range: "6.8-7.5"

      score: 10

    - label: High Normal

      range: "7.51-8.3"

      score: linear:7-0

    - label: Hyperproteinemia

      range: ">8.3"

      score: 0

hemoglobin\_men:

  type: Immune/Renal

  units: g/dL

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Severe Anemia

      range: "<11.0"

      score: 0

    - label: Mild Anemia

      range: "11.0-12.99"

      score: linear:0-3.5

    - label: In-Range

      range: "13.0-13.99"

      score: linear:3.5-7

    - label: Optimal

      range: "14.0-15.5"

      score: 10

    - label: High-Normal

      range: "15.51-17.0"

      score: linear:7-0

    - label: Excessively High Hgb

      range: ">17.0"

      score: 0

hemoglobin\_women:

  type: Immune/Renal

  units: g/dL

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Severe Anemia

      range: "<10.0"

      score: 0

    - label: Mild Anemia

      range: "10.0-11.49"

      score: linear:0-3.5

    - label: In-Range

      range: "11.5-11.99"

      score: linear:3.5-7

    - label: Optimal

      range: "12.0-14.5"

      score: 10

    - label: High-Normal

      range: "14.51-15.5"

      score: linear:7-0

    - label: Excessively High Hgb

      range: ">15.5"

      score: 0

hgb\_ckd:

  type: Immune/Renal

  units: g/dL

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Severe Anemia

      range: "<8.0"

      score: 0

    - label: Suboptimal

      range: "8.0-9.99"

      score: linear:0-7

    - label: Optimal

      range: "10.0-12.0"

      score: 10

    - label: In-Range (Slightly High)

      range: "12.01-13.0"

      score: linear:7-0

    - label: Excessively High

      range: ">13.0"

      score: 0

hematocrit\_men:

  type: Immune/Renal

  units: "%"

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Severe Anemia

      range: "<30"

      score: 0

    - label: Mild Anemia

      range: "30-37.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "38-39.99"

      score: linear:3.5-7

    - label: Optimal

      range: "40-45"

      score: 10

    - label: In-Range (High)

      range: "45.01-50"

      score: linear:7-0

    - label: High Hct

      range: ">50"

      score: 0

hematocrit\_women:

  type: Immune/Renal

  units: "%"

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Severe Anemia

      range: "<28"

      score: 0

    - label: Mild Anemia

      range: "28-34.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "35-36.99"

      score: linear:3.5-7

    - label: Optimal

      range: "37-42"

      score: 10

    - label: In-Range (High)

      range: "42.01-46"

      score: linear:7-0

    - label: High Hct

      range: ">46"

      score: 0

hct\_ckd:

  type: Immune/Renal

  units: "%"

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Severe Anemia

      range: "<28"

      score: 0

    - label: Suboptimal

      range: "28-32.99"

      score: linear:0-7

    - label: Optimal

      range: "33-36"

      score: 10

    - label: In-Range (Slightly High)

      range: "36.01-38"

      score: linear:7-0

    - label: Excessively High

      range: ">38"

      score: 0

vitamin\_b12:

  type: [Immune/Renal, Cognition]

  units: pg/mL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Severe Deficiency

      range: "<150"

      score: 0

    - label: Mild Deficiency

      range: "150-199"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "200-399"

      score: linear:3.5-7

    - label: Optimal

      range: "400-800"

      score: 10

    - label: In-Range (High)

      range: "800.01-900"

      score: linear:7-0

    - label: High

      range: "900.01-1000"

      score: linear:3.5-0

    - label: Excessively High

      range: ">1000"

      score: 0

folate\_serum:

  type: [Immune/Renal, Cognition]

  units: ng/mL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Severe Deficiency

      range: "<3"

      score: 0

    - label: Mild Deficiency

      range: "3-4.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "5-7.99"

      score: linear:3.5-7

    - label: Optimal

      range: "8-15"

      score: 10

    - label: In-Range (High)

      range: "15.01-30"

      score: linear:7-0

    - label: Excessive Folate

      range: ">30"

      score: 0

folate\_rbc:

  type: [Immune/Renal, Cognition]

  units: ng/mL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Severe Deficiency

      range: "<100"

      score: 0

    - label: Mild Deficiency

      range: "100-249"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "250-399"

      score: linear:3.5-7

    - label: Optimal

      range: "400-1000"

      score: 10

    - label: In-Range (High)

      range: "1000.01-1500"

      score: linear:7-0

    - label: Excessive Folate

      range: ">1500"

      score: 0

egfr:

  type: Immune/Renal

  units: mL/min/1.73 m²

  direction: higher\_better

  pillars: [Nutrition, CoreCare]

  ranges:

    - label: Kidney Failure (ESRD)

      range: "<15"

      score: 0

    - label: Severe Kidney Dysfunction

      range: "15-29"

      score: linear:0-1.75

    - label: Moderate Kidney Dysfunction

      range: "30-44"

      score: linear:1.75-3.5

    - label: Mild Kidney Dysfunction

      range: "45-59"

      score: linear:3.5-5.25

    - label: In-Range

      range: "60-89.99"

      score: linear:5.25-7

    - label: Optimal

      range: ">=90"

      score: 10

cystatin\_c:

  type: Immune/Renal

  units: mg/L

  direction: lower\_better

  pillars: [Nutrition, CoreCare]

  ranges:

    - label: Very High Cystatin C

      range: ">2.0"

      score: 0

    - label: Moderate-Severe Kidney Dysfunction

      range: "1.51-2.0"

      score: linear:3.5-0

    - label: Mild Elevation

      range: "1.21-1.5"

      score: linear:5.25-3.5

    - label: In-Range

      range: "0.9-1.2"

      score: linear:7-5.25

    - label: Optimal

      range: "0.6-0.89"

      score: 10

    - label: Low

      range: "0.6-0.89"

      score: linear:0-7

    - label: Excessively Low

      range: "<0.5"

      score: 0

bun:

  type: Immune/Renal

  units: mg/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically High BUN

      range: ">60"

      score: 0

    - label: Significantly Elevated

      range: "40.01-60"

      score: linear:2.65-0

    - label: Mildly Elevated BUN

      range: "25.01-40"

      score: linear:5.25-2.65

    - label: In-Range (High)

      range: "20.01-25"

      score: linear:7-5.25

    - label: Optimal

      range: "10-20"

      score: 10

    - label: In-Range (low)

      range: "7.0-9.99"

      score: linear:3.5-7

    - label: Low

      range: "3-6.99"

      score: linear:0-3.5

    - label: Excessively Low

      range: "<3"

      score: linear:0

# --- Cognition ---

homocysteine:

  type: Cognition

  units: µmol/L

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Extremely High

      range: ">30"

      score: 0

    - label: Moderate Elevation

      range: "15.01-30"

      score: linear:2.625-0

    - label: Mild Elevation

      range: "12.0-15.0"

      score: linear:5.25-2.625

    - label: In-Range

      range: "10.0-11.99"

      score: linear:7-5.25

    - label: Optimal

      range: "5.0-9.99"

      score: 10

    - label: Low

      range: "<5.0"

      score: linear:0-7

    - label: Extremely Low

      range: "<3.0"

      score: 0

cortisol\_morning:

  type: [Cognition, Hormone Balance]

  units: µg/dL

  direction: optimal\_range

  pillars: [Stress, Sleep, Connection]

  ranges:

    - label: Extremely Low

      range: "<2.0"

      score: 0

    - label: Low Morning Cortisol

      range: "2.0-4.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "5.0-7.99"

      score: linear:3.5-7

    - label: Optimal

      range: "8.0-16.0"

      score: 10

    - label: In-Range (High)

      range: "16.01-18.0"

      score: linear:7-3.5

    - label: High Morning Cortisol

      range: "18.01-20.0"

      score: linear:3.5-0

    - label: Extremely High

      range: ">20.0"

      score: 0

cortisol\_afternoon:

  type: [Cognition, Hormone Balance]

  units: µg/dL

  direction: optimal\_range

  pillars: [Stress, Sleep, Connection]

  ranges:

    - label: Extremely Low

      range: "<1.0"

      score: 0

    - label: Low Afternoon Cortisol

      range: "1.0-1.99"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "2.0-2.99"

      score: linear:3.5-7

    - label: Optimal

      range: "3.0-10.0"

      score: 10

    - label: Elevated

      range: "10.01-15.0"

      score: linear:7-0

    - label: Extremely High

      range: ">15.0"

      score: 0

cortisol\_night:

  type: [Cognition, Hormone Balance]

  units: µg/dL

  direction: lower\_better

  pillars: [Stress, Sleep, Connection]

  ranges:

    - label: Optimal

      range: "0.0-5.0"

      score: 10

    - label: Mildly Elevated

      range: "5.01-8.0"

      score: linear:7-3.5

    - label: High Nighttime Cortisol

      range: "8.01-12.0"

      score: linear:3.5-0

    - label: Excessively High

      range: ">12.0"

      score: 0

cortisol\_24hr\_urine:

  type: [Cognition, Hormone Balance]

  units: µg/day

  direction: optimal\_range

  pillars: [Stress, Sleep, Connection]

  ranges:

    - label: Critically Low

      range: "<10"

      score: 0

    - label: Low Cortisol Output

      range: "10-19.99"

      score: linear:0-3.5

    - label: Optimal

      range: "20-90"

      score: 10

    - label: Mild Elevation

      range: "90.01-120"

      score: linear:7-5.25

    - label: Moderate Elevation

      range: "120.01-150"

      score: linear:5.25-2.625

    - label: High

      range: "150.01-200"

      score: linear:2.625-0

    - label: Excessively High

      range: ">200"

      score: 0

# --- Hormone Balance ---

estradiol\_follicular\_premenopausal\_women:

  type: Hormone Balance

  units: pg/mL

  direction: optimal\_range

  pillars: [Stress, Nutrition]

  ranges:

    - label: Low

      range: "<30"

      score: 0

    - label: Suboptimal

      range: "30-49"

      score: linear:0-7

    - label: Optimal

      range: "50-100"

      score: 10

    - label: Elevated

      range: "100.01-150"

      score: linear:7-0

    - label: Excessive

      range: ">150"

      score: 0

estradiol\_ovulatory\_premenopausal:

  type: Hormone Balance

  units: pg/mL

  direction: optimal\_range

  pillars: [Stress, Nutrition]

  ranges:

    - label: Low

      range: "<100"

      score: 0

    - label: Suboptimal

      range: "100-199"

      score: linear:0-7

    - label: Optimal

      range: "200-400"

      score: 10

    - label: Elevated

      range: "400.01-500"

      score: linear:7-0

    - label: Excessive

      range: ">500"

      score: 0

estradiol\_luteal\_premenopausal:

  type: Hormone Balance

  units: pg/mL

  direction: optimal\_range

  pillars: [Stress, Nutrition]

  ranges:

    - label: Low

      range: "<60"

      score: 0

    - label: Suboptimal

      range: "60-99"

      score: linear:0-7

    - label: Optimal

      range: "100-250"

      score: 10

    - label: Elevated

      range: "250.01-300"

      score: linear:7-0

    - label: Excessive

      range: ">300"

      score: 0

estradiol\_postmenopausal:

  type: Hormone Balance

  units: pg/mL

  direction: optimal\_range

  pillars: [Stress, Nutrition]

  ranges:

    - label: Critically Low

      range: "<5"

      score: 0

    - label: Low

      range: "5-9.99"

      score: linear:0-3.5

    - label: Suboptimal

      range: "10-19.99"

      score: linear:3.5-7

    - label: Optimal

      range: "20-40"

      score: 10

    - label: Elevated

      range: "40.01-60"

      score: linear:7-0

    - label: Excessive

      range: ">60"

      score: 0

estradiol\_men:

  type: Hormone Balance

  units: pg/mL

  direction: optimal\_range

  pillars: [Stress, Nutrition]

  ranges:

    - label: Optimal

      range: "10-40"

      score: 10

    - label: In-Range (Low)

      range: "5-9.99"

      score: linear:0-7

    - label: In-Range (High)

      range: "40.01-60"

      score: linear:7-0

    - label: Elevated

      range: ">60"

      score: 0

    - label: Very Low

      range: "<5"

      score: 0

progesterone\_follicular\_premenopausal:

  type: Hormone Balance

  units: ng/mL

  direction: lower\_expected

  pillars: [Stress, Nutrition]

  ranges:

    - label: Expected Low

      range: "<0.5"

      score: 10

    - label: Unusually High

      range: "0.5-2.0"

      score: linear:7-0

    - label: High (Misaligned Phase?)

      range: ">2.0"

      score: 0

progesterone\_ovulatory\_premenopausal:

  type: Hormone Balance

  units: ng/mL

  direction: optimal\_range

  pillars: [Stress, Nutrition]

  ranges:

    - label: Suboptimal

      range: "<2.0"

      score: linear:0-7

    - label: Optimal

      range: "2.0-5.0"

      score: 10

    - label: Elevated

      range: "5.01-7"

      score: linear:7-0

    - label: Excessive

      range: ">7.0"

      score: 0

progesterone\_luteal\_premenopausal:

  type: Hormone Balance

  units: ng/mL

  direction: optimal\_range

  pillars: [Stress, Nutrition]

  ranges:

    - label: Low

      range: "<10.0"

      score: linear:0-7

    - label: Optimal

      range: "10.0-25.0"

      score: 10

    - label: High

      range: "25.01-30"

      score: linear:7-0

    - label: Excessive

      range: ">30.0"

      score: 0

progesterone\_postmenopausal:

  type: Hormone Balance

  units: ng/mL

  direction: optimal\_range

  pillars: [Stress, Nutrition]

  ranges:

    - label: Very Low

      range: "<0.1"

      score: 0

    - label: Suboptimal

      range: "0.1-0.49"

      score: linear:0-7

    - label: Optimal

      range: "0.5-1.5"

      score: 10

    - label: Elevated

      range: "1.51-3.0"

      score: linear:7-0

    - label: Excessive

      range: ">3.0"

      score: 0

tsh\_general:

  type: [Hormone Balance, Sleep]

  units: mIU/L

  direction: optimal\_range

  pillars: [Stress, Sleep, Nutrition]

  ranges:

    - label: Clinical Hyperthyroid

      range: "<0.1"

      score: 0

    - label: Subclinical Hyperthyroid

      range: "0.1-0.49"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "0.5-0.99"

      score: linear:3.5-7

    - label: Optimal

      range: "1.0-2.5"

      score: 10

    - label: In-Range (High)

      range: "2.51-4.5"

      score: linear:7-3.5

    - label: Subclinical Hypothyroid

      range: "4.51-10"

      score: linear:3.5-0

    - label: Clinical Hypothyroid

      range: ">10"

      score: 0

tsh\_elderly:

  type: [Hormone Balance, Sleep]

  units: mIU/L

  direction: optimal\_range

  pillars: [Stress, Sleep, Nutrition]

  ranges:

    - label: Clinical Hyperthyroid

      range: "<0.1"

      score: 0

    - label: Subclinical Hyperthyroid

      range: "0.1-1.19"

      score: linear:0-3.5

    - label: In-Range (Low)

      range: "1.2-1.49"

      score: linear:3.5-7

    - label: Optimal

      range: "1.5-3.0"

      score: 10

    - label: In-Range (High)

      range: "3.01-4.5"

      score: linear:7-3.5

    - label: Subclinical Hypothyroid

      range: "4.51-10"

      score: linear:3.5-0

    - label: Clinical Hypothyroid

      range: ">10"

      score: 0

tsh\_pregnancy:

  type: [Hormone Balance, Sleep]

  units: mIU/L

  direction: optimal\_range

  pillars: [Stress, Sleep, Nutrition]

  ranges:

    - label: Clinical Hyperthyroid

      range: "<0.1"

      score: 0

    - label: Borderline Low

      range: "0.1-0.19"

      score: linear:0-3.5

    - label: Optimal

      range: "0.2-3.0"

      score: 10

    - label: Borderline High

      range: "3.01-4.0"

      score: linear:7-3.5

    - label: Subclinical Hypothyroid

      range: "4.01-10"

      score: linear:3.5-0

    - label: Clinical Hypothyroid

      range: ">10"

      score: 0

calcium\_serum:

  type: Hormone Balance

  units: mg/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low Serum Calcium

      range: "<8.0"

      score: 0

    - label: Mildly Low Serum Calcium

      range: "8.0-8.49"

      score: linear:0-7

    - label: Optimal Serum Calcium

      range: "8.8-10.2"

      score: 10

    - label: Mildly Elevated Serum Calcium

      range: "10.21-10.5"

      score: linear:7-0

    - label: Critically High Serum Calcium

      range: ">10.5"

      score: 0

calcium\_ionized:

  type: Hormone Balance

  units: mg/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low Ionized Calcium

      range: "<4.0"

      score: 0

    - label: Mildly Low Ionized Calcium

      range: "4.0-4.49"

      score: linear:0-7

    - label: Optimal Ionized Calcium

      range: "4.5-5.3"

      score: 10

    - label: Mildly Elevated Ionized Calcium

      range: "5.31-5.7"

      score: linear:7-0

    - label: Critically High Ionized Calcium

      range: ">5.7"

      score: 0

dhea\_s\_women:

  type: Hormone Balance

  units: µg/dL

  direction: optimal\_range

  pillars: [Stress, Connection]

  ranges:

    - label: Critically Low DHEA-S

      range: "<30"

      score: 0

    - label: Mildly Low DHEA-S

      range: "30-274"

      score: linear:0-7

    - label: Optimal

      range: "275-400"

      score: 10

    - label: Mildly Elevated DHEA-S

      range: "401-450"

      score: linear:7-0

    - label: Critically High DHEA-S

      range: ">450"

      score: 0

dhea\_s\_men:

  type: Hormone Balance

  units: µg/dL

  direction: optimal\_range

  pillars: [Stress, Connection]

  ranges:

    - label: Critically Low DHEA-S

      range: "<150"

      score: 0

    - label: Mildly Low DHEA-S

      range: "150-349"

      score: linear:0-7

    - label: Optimal

      range: "350-500"

      score: 10

    - label: Mildly Elevated DHEA-S

      range: "501-700"

      score: linear:7-0

    - label: Critically High DHEA-S

      range: ">700"

      score: 0

# --- Recovery ---

ast\_male:

  type: Recovery

  units: U/L

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Critically High

      range: ">1000"

      score: 0

    - label: Severely Elevated

      range: "501-1000"

      score: linear:2.625-0

    - label: Moderately Elevated

      range: "81-500"

      score: linear:5.25-2.625

    - label: Mildly Elevated

      range: "26-80"

      score: linear:7-5.25

    - label: Optimal

      range: "10-25"

      score: 10

    - label: Suboptimal Low

      range: "7-9.99"

      score: linear:0-7

    - label: Critically Low

      range: "<7"

      score: 0

ast\_female:

  type: Recovery

  units: U/L

  direction: lower\_better

  pillars: [Nutrition]

  ranges:

    - label: Critically High

      range: ">1000"

      score: 0

    - label: Severely Elevated

      range: "81-1000"

      score: linear:2.625-0

    - label: Moderately Elevated

      range: "41-80"

      score: linear:5.25-2.625

    - label: Mildly Elevated

      range: "21-40"

      score: linear:7-5.25

    - label: Optimal

      range: "10-20"

      score: 10

    - label: Suboptimal Low

      range: "7-9.99"

      score: linear:0-7

    - label: Critically Low

      range: "<7"

      score: 0

ck\_male:

  type: Recovery

  units: U/L

  direction: lower\_better

  pillars: [Movement, Stress]

  ranges:

    - label: Critically High

      range: ">1000"

      score: 0

    - label: Severely Elevated

      range: "551-1000"

      score: linear:2.625-0

    - label: Moderately Elevated

      range: "351-550"

      score: linear:5.25-2.625

    - label: Mildly Elevated

      range: "201-350"

      score: linear:7-5.25

    - label: Optimal

      range: "50-200"

      score: 10

    - label: Suboptimal Low

      range: "30-49"

      score: linear:3.5-7

    - label: Critically Low

      range: "<30"

      score: 0

ck\_female:

  type: Recovery

  units: U/L

  direction: lower\_better

  pillars: [Movement, Stress]

  ranges:

    - label: Critically High

      range: ">1000"

      score: 0

    - label: Severely Elevated

      range: "451-1000"

      score: linear:2.625-0

    - label: Moderately Elevated

      range: "301-450"

      score: linear:5.25-2.625

    - label: Mildly Elevated

      range: "151-300"

      score: linear:7-5.25

    - label: Optimal

      range: "40-150"

      score: 10

    - label: Suboptimal Low

      range: "25-39"

      score: linear:3.5-7

    - label: Critically Low

      range: "<25"

      score: 0

ck\_athlete:

  type: Recovery

  units: U/L

  direction: lower\_better

  pillars: [Movement, Stress]

  ranges:

    - label: Critically High

      range: ">1200"

      score: 0

    - label: Severely Elevated

      range: "801-1200"

      score: linear:2.625-0

    - label: Moderately Elevated

      range: "601-800"

      score: linear:5.25-2.625

    - label: Mildly Elevated

      range: "401-600"

      score: linear:7-5.25

    - label: Optimal

      range: "100-400"

      score: 10

    - label: Suboptimal Low

      range: "70-99"

      score: linear:3.5-7

    - label: Critically Low

      range: "<70"

      score: 0

ggt\_male:

  type: Recovery

  units: U/L

  direction: lower\_better

  pillars: [Nutrition, Stress]

  ranges:

    - label: Very High

      range: ">100"

      score: 0

    - label: High

      range: "71-100"

      score: linear:2.625-0

    - label: Moderately Elevated

      range: "51-70"

      score: linear:5.25-2.625

    - label: Mildly Elevated

      range: "26-50"

      score: linear:7-5.25

    - label: Optimal

      range: "10-25"

      score: 10

ggt\_female:

  type: Recovery

  units: U/L

  direction: lower\_better

  pillars: [Nutrition, Stress]

  ranges:

    - label: Very High

      range: ">100"

      score: 0

    - label: High

      range: "71-100"

      score: linear:2.625-0

    - label: Moderately Elevated

      range: "51-70"

      score: linear:5.25-2.625

    - label: Mildly Elevated

      range: "26-50"

      score: linear:7-5.25

    - label: Optimal

      range: "10-25"

      score: 10

sodium:

  type: Recovery

  units: mmol/L

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Severe Hyponatremia

      range: "<130"

      score: 0

    - label: Mild Hyponatremia

      range: "130-134.99"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "135-135.99"

      score: linear:3.5-7

    - label: Optimal

      range: "136-142"

      score: 10

    - label: Suboptimal High

      range: "142.01-143.5"

      score: linear:7-3.5

    - label: Mild Hypernatremia

      range: "143.51-145"

      score: linear:3.5-0

    - label: Severe Hypernatremia

      range: ">145"

      score: 0

potassium:

  type: Recovery

  units: mmol/L

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Severe Hypokalemia

      range: "<3.0"

      score: 0

    - label: Mild Hypokalemia

      range: "3.0-3.49"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "3.5-3.99"

      score: linear:3.5-7

    - label: Optimal

      range: "4.0-4.7"

      score: 10

    - label: Suboptimal High

      range: "4.71-5.2"

      score: linear:7-3.5

    - label: Mild Hyperkalemia

      range: "5.21-6.0"

      score: linear:3.5-0

    - label: Severe Hyperkalemia

      range: ">6.0"

      score: 0

# --- Endurance ---

ferritin\_male:

  type: [Endurance, Immune/Renal]

  units: ng/mL

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Critically Low

      range: "<15"

      score: 0

    - label: Low

      range: "15-29"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "30-39"

      score: linear:3.5-7

    - label: Optimal

      range: "40-100"

      score: 10

    - label: Suboptimal High

      range: "101-150"

      score: linear:7-3.5

    - label: High

      range: "151-200"

      score: linear:3.5-0

    - label: Critically High

      range: ">200"

      score: 0

ferritin\_female:

  type: [Endurance, Immune/Renal]

  units: ng/mL

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Critically Low

      range: "<10"

      score: 0

    - label: Low

      range: "10-19"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "20-39"

      score: linear:3.5-7

    - label: Optimal

      range: "40-100"

      score: 10

    - label: Suboptimal High

      range: "101-125"

      score: linear:7-3.5

    - label: High

      range: "126-150"

      score: linear:3.5-0

    - label: Critically High

      range: ">150"

      score: 0

ferritin\_athlete:

  type: [Endurance, Immune/Renal]

  units: ng/mL

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Critically Low

      range: "<20"

      score: 0

    - label: Low

      range: "20-29"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "30-34"

      score: linear:3.5-7

    - label: Optimal

      range: "35-100"

      score: 10

    - label: Suboptimal High

      range: "101-125"

      score: linear:7-3.5

    - label: High

      range: "126-150"

      score: linear:3.5-0

    - label: Critically High

      range: ">150"

      score: 0

iron:

  type: [Endurance, Sleep]

  units: µg/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<40"

      score: 0

    - label: Low

      range: "40-54"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "55-79"

      score: linear:3.5-7

    - label: Optimal

      range: "80-130"

      score: 10

    - label: Suboptimal High

      range: "131-150"

      score: linear:7-3.5

    - label: High

      range: "151-175"

      score: linear:3.5-0

    - label: Critically High

      range: ">175"

      score: 0

mch:

  type: Endurance

  units: pg/cell

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<24"

      score: 0

    - label: Low

      range: "24-26.99"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "27-29.99"

      score: linear:3.5-7

    - label: Optimal

      range: "30-33"

      score: 10

    - label: Suboptimal High

      range: "33.01-34.5"

      score: linear:7-3.5

    - label: High

      range: "34.51-36"

      score: linear:3.5-0

    - label: Critically High

      range: ">36"

      score: 0

mchc:

  type: Endurance

  units: g/dL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<30"

      score: 0

    - label: Low

      range: "30-31.99"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "32-33.49"

      score: linear:3.5-7

    - label: Optimal

      range: "33.5-35.5"

      score: 10

    - label: Suboptimal High

      range: "35.51-36.5"

      score: linear:7-3.5

    - label: High

      range: "36.51-38"

      score: linear:3.5-0

    - label: Critically High

      range: ">38"

      score: 0

mcv:

  type: Endurance

  units: fL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<70"

      score: 0

    - label: Low

      range: "70-79"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "80-84.99"

      score: linear:3.5-7

    - label: Optimal

      range: "85-95"

      score: 10

    - label: Suboptimal High

      range: "95.01-100"

      score: linear:7-3.5

    - label: High

      range: "100.01-105"

      score: linear:3.5-0

    - label: Critically High

      range: ">105"

      score: 0

rbc\_male:

  type: Endurance

  units: million/µL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<4.0"

      score: 0

    - label: Low

      range: "4.0-4.39"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "4.4-4.99"

      score: linear:3.5-7

    - label: Optimal

      range: "5.0-5.7"

      score: 10

    - label: Suboptimal High

      range: "5.71-6.0"

      score: linear:7-3.5

    - label: High

      range: "6.01-6.5"

      score: linear:3.5-0

    - label: Critically High

      range: ">6.5"

      score: 0

rbc\_female:

  type: Endurance

  units: million/µL

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<3.8"

      score: 0

    - label: Low

      range: "3.8-4.19"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "4.2-4.59"

      score: linear:3.5-7

    - label: Optimal

      range: "4.6-5.3"

      score: 10

    - label: Suboptimal High

      range: "5.31-5.5"

      score: linear:7-3.5

    - label: High

      range: "5.51-6.0"

      score: linear:3.5-0

    - label: Critically High

      range: ">6.0"

      score: 0

platelet:

  type: Endurance

  units: "x 10⁹/L"

  direction: optimal\_range

  pillars: [Nutrition]

  ranges:

    - label: Critically Low

      range: "<100"

      score: 0

    - label: Low

      range: "100-149"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "150-199"

      score: linear:3.5-7

    - label: Optimal

      range: "200-300"

      score: 10

    - label: Suboptimal High

      range: "301-400"

      score: linear:7-3.5

    - label: High

      range: "401-500"

      score: linear:3.5-0

    - label: Critically High

      range: ">500"

      score: 0

# --- Fitness ---

free\_testosterone\_male:

  type: Fitness

  units: ng/dL

  direction: optimal\_range

  pillars: [Nutrition, Sleep, Movement]

  ranges:

    - label: Critically Low

      range: "<5"

      score: 0

    - label: Low

      range: "5-7.99"

      score: linear:0-3.5

    - label: Normal

      range: "8-11.9"

      score: linear:3.5-7

    - label: Optimal

      range: "12-20"

      score: 10

    - label: High

      range: "20.01-30"

      score: linear:7-0

    - label: Critically High

      range: ">30"

      score: 0

free\_testosterone\_female:

  type: Fitness

  units: ng/dL

  direction: optimal\_range

  pillars: [Stress, Sleep, Movement]

  ranges:

    - label: Critically Low

      range: "<0.5"

      score: 0

    - label: Low

      range: "0.5-0.99"

      score: linear:0-7

    - label: Optimal

      range: "1.0-2.0"

      score: 10

    - label: High

      range: "2.01-2.5"

      score: linear:7-0

    - label: Critically High

      range: ">2.5"

      score: 0

shbg\_male:

  type: Fitness

  units: nmol/L

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Critically Low

      range: "<10"

      score: 0

    - label: Low

      range: "10-17.9"

      score: linear:0-7

    - label: Optimal

      range: "18-35"

      score: 10

    - label: High

      range: "35.01-55"

      score: linear:7-0

    - label: Critically High

      range: ">55"

      score: 0

shbg\_female:

  type: Fitness

  units: nmol/L

  direction: optimal\_range

  pillars: [Nutrition, Stress]

  ranges:

    - label: Critically Low

      range: "<20"

      score: 0

    - label: Low

      range: "20-39.9"

      score: linear:0-7

    - label: Optimal

      range: "40-80"

      score: 10

    - label: High

      range: "80.01-125"

      score: linear:7-0

    - label: Critically High

      range: ">125"

      score: 0

vo2\_max\_male\_20s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<35"

      score: 0

    - label: Low

      range: "35-41.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "42-49.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=50"

      score: 10

vo2\_max\_male\_30s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<33"

      score: 0

    - label: Low

      range: "33-39.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "40-46.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=47"

      score: 10

vo2\_max\_male\_40s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<30"

      score: 0

    - label: Low

      range: "30-35.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "36-43.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=44"

      score: 10

vo2\_max\_male\_50s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<28"

      score: 0

    - label: Low

      range: "28-33.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "34-39.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=40"

      score: 10

vo2\_max\_male\_60s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<25"

      score: 0

    - label: Low

      range: "25-29.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "30-35.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=36"

      score: 10

vo2\_max\_male\_70s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<22"

      score: 0

    - label: Low

      range: "22-27.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "28-31.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=32"

      score: 10

vo2\_max\_female\_20s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<30"

      score: 0

    - label: Low

      range: "30-36.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "37-44.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=45"

      score: 10

vo2\_max\_female\_30s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<28"

      score: 0

    - label: Low

      range: "28-34.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "35-41.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=42"

      score: 10

vo2\_max\_female\_40s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<26"

      score: 0

    - label: Low

      range: "26-32.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "33-38.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=39"

      score: 10

vo2\_max\_female\_50s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<24"

      score: 0

    - label: Low

      range: "24-29.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "30-35.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=36"

      score: 10

vo2\_max\_female\_60s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<22"

      score: 0

    - label: Low

      range: "22-26.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "27-31.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=32"

      score: 10

vo2\_max\_female\_70s:

  type: Fitness

  units: mL/kg/min

  direction: higher\_better

  pillars: [Movement]

  ranges:

    - label: Critically Low

      range: "<20"

      score: 0

    - label: Low

      range: "20-25.9"

      score: linear:0-3.5

    - label: Suboptimal

      range: "26-27.9"

      score: linear:3.5-7

    - label: Optimal

      range: ">=28"

      score: 10

# --- Body Composition ---

percent\_body\_fat\_male:

  type: Body Composition

  units: "%"

  direction: optimal\_range

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Excessively Low

      range: "<5"

      score: 0

    - label: Low

      range: "5-9.99"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "10-14.99"

      score: linear:3.5-7

    - label: Optimal

      range: "15-20"

      score: 10

    - label: Suboptimal High

      range: "20.01-24.99"

      score: linear:7-3.5

    - label: High

      range: "25-29.99"

      score: linear:3.5-0

    - label: Excessively High

      range: ">=30"

      score: 0

percent\_body\_fat\_premenopausal\_female:

  type: Body Composition

  units: "%"

  direction: optimal\_range

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Excessively Low

      range: "<13"

      score: 0

    - label: Low

      range: "13-17.99"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "18-22.99"

      score: linear:3.5-7

    - label: Optimal

      range: "23-28"

      score: 10

    - label: Suboptimal High

      range: "28.01-32.99"

      score: linear:7-3.5

    - label: High

      range: "33-37.99"

      score: linear:3.5-0

    - label: Excessively High

      range: ">=38"

      score: 0

percent\_body\_fat\_postmenopausal\_female:

  type: Body Composition

  units: "%"

  direction: optimal\_range

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Excessively Low

      range: "<15"

      score: 0

    - label: Low

      range: "15-19.99"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "20-24.99"

      score: linear:3.5-7

    - label: Optimal

      range: "25-30"

      score: 10

    - label: Suboptimal High

      range: "30.01-34.99"

      score: linear:7-3.5

    - label: High

      range: "35-39.99"

      score: linear:3.5-0

    - label: Excessively High

      range: ">=40"

      score: 0

SMM\_to\_FFM\_male:

  type: Body Composition

  units: "%"

  direction: higher\_better

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Critically Low

      range: "<65"

      score: 0

    - label: Low

      range: "65-69.99"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "70-74.99"

      score: linear:3.5-7

    - label: Optimal

      range: "75-89"

      score: 10

    - label: Suboptimal High

      range: "89.01-92"

      score: linear:7-3.5

    - label: High

      range: "92.01-95"

      score: linear:3.5-0

    - label: Critically High

      range: ">95"

      score: 0

SMM\_to\_FFM\_female:

  type: Body Composition

  units: "%"

  direction: higher\_better

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Critically Low

      range: "<60"

      score: 0

    - label: Low

      range: "60-64.99"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "65-69.99"

      score: linear:3.5-7

    - label: Optimal

      range: "70-85"

      score: 10

    - label: Suboptimal High

      range: "85.01-88"

      score: linear:7-3.5

    - label: High

      range: "88.01-90"

      score: linear:3.5-0

    - label: Critically High

      range: ">90"

      score: 0

hip\_to\_waist\_male:

  type: Body Composition

  units: ratio

  direction: optimal\_range

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Excessively Low

      range: "<0.80"

      score: 0

    - label: Low

      range: "0.80-0.84"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "0.85-0.89"

      score: linear:3.5-7

    - label: Optimal

      range: "0.90"

      score: 10

    - label: Suboptimal High

      range: "0.91-0.95"

      score: linear:7-3.5

    - label: High

      range: "0.96-1.00"

      score: linear:3.5-0

    - label: Excessively High

      range: ">1.00"

      score: 0

hip\_to\_waist\_female:

  type: Body Composition

  units: ratio

  direction: optimal\_range

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Excessively Low

      range: "<0.65"

      score: 0

    - label: Low

      range: "0.65-0.69"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "0.70-0.74"

      score: linear:3.5-7

    - label: Optimal

      range: "0.75-0.80"

      score: 10

    - label: Suboptimal High

      range: "0.81-0.85"

      score: linear:7-3.5

    - label: High

      range: "0.86-0.90"

      score: linear:3.5-0

    - label: Excessively High

      range: ">0.90"

      score: 0

bmi:

  type: Body Composition

  units: "kg/m²"

  direction: optimal\_range

  pillars: [Nutrition, Movement, Stress, Sleep]

  ranges:

    - label: Critically Low

      range: "<17.0"

      score: 0

    - label: Low

      range: "17.0-18.49"

      score: linear:0-3.5

    - label: Suboptimal Low

      range: "18.5-21.49"

      score: linear:3.5-7

    - label: Optimal

      range: "21.5-24.9"

      score: 10

    - label: Suboptimal High

      range: "25.0-27.9"

      score: linear:7-3.5

    - label: High

      range: "28.0-29.9"

      score: linear:3.5-0

    - label: Critically High

      range: ">=30.0"

      score: 0