

Nourish Labs: Standard Operating Procedures



Purpose

This Standard Operating Procedure (SOP) equips Nourish Registered Dietitians with a clear, repeatable path for using basic lab results in care - especially when values are abnormal - while staying within RD scope.

Roles & Responsibilities

Nourish RD

Support labs to deliver nutrition education and counseling, set data-driven goals, and reinforce behavior change. Recommend that all results be reviewed with the patient's PCP for formal medical interpretation.

Partner Clinician Network

Review and sign every lab order. Monitor results for critical ("panic") values and contact the patient immediately with medical instructions.

Patient's PCP

Provide medical interpretation, diagnosis, and any treatment decision (e.g., medications, additional testing, referrals) based on results. If the patient has no PCP, Nourish RDs should encourage the patient to establish ongoing medical care with a PCP for medical interpretation and follow-up. Nourish RDs can help identify general options (see FAQ), but Nourish does not endorse or directly refer to specific providers.

Nourish Action Plan by Lab Result

Lab test	Nourish RD Standard Operating Procedures by Non-Critical Result
Total Cholesterol	<p>200 - 239 mg/dL: Provide comprehensive nutrition & lifestyle counseling (e.g., increase daily soluble fiber intake, incorporate plant stanols/sterols, achieve a minimum of 150 minutes of moderate-intensity aerobic exercise per week). Advise the patient to raise this result at their next appointment with their primary-care provider (PCP)</p> <p>≥ 240 mg/dL: Deliver the same nutrition & lifestyle counseling and advise the patient to schedule a dedicated visit with their PCP within the next 30 days for a full review of lab results and cardiovascular-risk assessment. Record the recommendation and the patient's acknowledgement in the chart note.</p>
LDL-C	<p>130 - 159 mg/dL: Provide comprehensive nutrition & lifestyle counseling (e.g., reduce saturated-fat intake, increase soluble-fibre intake, sustain ≥ 150 minutes of aerobic exercise weekly). Note the intervention and advise the patient to review the result at their next PCP visit.</p> <p>160 - 189 mg/dL: Provide the above dietary guidance and instruct the patient to arrange a PCP appointment within 30 days to review and discuss results.</p> <p>≥ 190 mg/dL: Offer urgent nutrition and lifestyle counseling and direct the patient to secure a PCP appointment within 14 days for evaluation. Document all instructions and the patient's response in chart note.</p>
HbA1C	<p>5.7 - 6.4%: Provide comprehensive nutrition & lifestyle counseling (e.g., balanced carbohydrate distribution, weight management, increased physical activity). Recommend repeating HbA1c in three months and advise the patient to review the result with their PCP at the next routine visit.</p> <p>6.5 - 8.9%: Provide targeted dietary guidance to improve glycemic control and encourage self-monitoring of blood glucose where appropriate. Advise the patient to schedule a PCP appointment within 30 days to discuss initiation or adjustment of medical therapy; document the guidance and referral in chart note.</p> <p>≥ 9%: Emphasize urgent nutrition modifications (e.g., lower glycemic meals and increased fiber) and instruct the patient to contact their PCP or endocrinologist within seven days for expedited evaluation and treatment planning.</p>
Fasting Glucose	<p>100 - 125 mg/dL: Provide comprehensive nutrition & lifestyle counseling (e.g., balanced carbohydrate distribution, weight management, and increased physical activity). Recommend confirmatory testing in three to six months and advise the patient to review the result with their PCP.</p> <p>126 - 199 mg/dL: Provide the same dietary counseling; direct the patient to schedule a visit with their PCP within 30 days for diagnostic confirmation and discussion of therapeutic options.</p> <p>200 - 499 mg/dL: Reinforce carbohydrate-management strategies and instruct the patient to seek PCP evaluation 7 seven days, or sooner if hyperglycemic symptoms develop.</p>
TSH	<p>0.1 - 0.4 mIU/L or 4.0 - 10 mIU/L: Provide comprehensive nutrition & lifestyle counseling (e.g., dietary iodine and selenium sources). Advise the patient to request a comprehensive thyroid evaluation from their PCP at the next available appointment. Document counseling and recommendation.</p> <p>< 0.1 mIU/L or > 10 mIU/L: Provide the same nutrition guidance and instruct the patient to book a PCP visit within 7 days for further assessment and possible endocrine referral. Record advice and patient acknowledgement in the chart note.</p>

Links to Nourish Care Pathways: [Nourish Care Pathway: Weight Loss, Overweight & Obesity \(Adult\)](#), [Nourish Care Pathway: GLP-1-Supported Weight Loss \(Adult\)](#), [Nourish Care Pathway: Type 1 Diabetes](#), [Nourish Care Pathway: Type 2 Diabetes and Prediabetes](#), [Nourish Care Pathway: Hypertension](#), [Nourish Care Pathway: High Cholesterol](#), [Nourish Care Pathway: Women's Health](#)

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eGFR	<p>The key cutoff for chronic kidney disease (CKD) is an eGFR <60 mL/min/1.73 m², persisting for at least 3 months. Interpretation should be cautious in older adults, where lower values may reflect age-related decline rather than disease. Dehydration is a common cause of a transiently decreased eGFR in otherwise healthy patients.</p> <p>For eGFR <60, advise the patient to request a comprehensive CKD evaluation with their PCP and/or nephrologist. See attached table for nutritional recommendations recommendations. For patients with eGFR < 30, strongly consider internal referral to RD with CKD training.</p>
Creatinine	<p>Serum creatinine is a byproduct of muscle metabolism and is commonly used to estimate GFR. However, creatinine levels are influenced by factors such as age, sex, muscle mass, and diet, so a "normal" value can vary between individuals. For this reason, eGFR equations are used to standardize kidney function assessment across populations by adjusting for these variables</p>
Urea Nitrogen (BUN)	<p>Laboratory BUN values reflect kidney function, protein metabolism, and hydration status, not dietary protein intake alone. BUN should be interpreted alongside creatinine, eGFR, and clinical findings for accurate assessment of renal function.</p> <p>Elevated BUN (>20): Most commonly indicates impaired renal function (acute or chronic kidney disease) or dehydration. But can also be high protein intake, GI bleeding, corticosteroid use, or catabolic states.</p> <ul style="list-style-type: none"> Mild elevation (21–30 mg/dL): Review hydration status, medications, comorbidities, and recent dietary protein intake (especially use of supplements, which can cause elevation). Counsel on adequate hydration and balanced protein intake. Routine PCP follow-up within 30 days. Moderate elevation (31–50 mg/dL): Assess for symptoms of uremia (fatigue, pruritus, nausea, muscle cramps, changes in urination). Review for underlying kidney disease, dehydration, or catabolic states. Refer to PCP within 7 days for further evaluation. Severe elevation (>50 mg/dL): Check for acute symptoms (confusion, severe weakness, vomiting, altered mental status). Refer to PCP within 48 hours; if new or severe symptoms, refer to emergency department. <p>Low BUN (<7 mg/dL): May be seen in severe liver disease, malnutrition, or overhydration. If other signs of liver disease or severe malnutrition, refer to PCP within 14 days.</p>

CKD Stage	eGFR Range	Dietary Recommendations	Key Counseling Points
1-2 (Mildly decreased; may be normal in older adults)	60-89	<p>Protein: 0.8-1.0 g/kg/day</p> <p>Sodium: <2,300 mg/day</p> <p>Potassium & other considerations: Individualize potassium if high; general healthy diet; monitor Vitamin D</p>	<ul style="list-style-type: none"> Focus on cardiometabolic risk reduction (lipids, A1C, BP) Encourage plant-based proteins Screen for comorbidities Fluids ~2-3 L/day water as tolerated; limit sugar-sweetened beverages
3a (Mild to moderate decrease)	45-59	<p>Protein: ~0.8 g/kg/day</p> <p>Sodium: <2,300 mg/day</p> <p>Potassium & other considerations: Monitor potassium; monitor Vitamin D; monitor phosphorus trend; encourage plant-based proteins</p>	<ul style="list-style-type: none"> Avoid high-protein diets (>1.3 g/kg/day) Begin phosphorus education (limit phosphate additives) Start daily renal-appropriate multivitamin with DHA/EPA (per PCP) Fluids ~2-3 L/day water as tolerated; limit sugar-sweetened beverages
3b (Moderate to severe decrease)	30-44	<p>Protein: 0.6-0.8 g/kg/day</p> <p>Sodium: <2,000-2,300 mg/day</p> <p>Potassium & other considerations: Monitor potassium, phosphorus and PTH; monitor Vitamin D; consider calorie restriction if overweight</p>	<ul style="list-style-type: none"> Increased risk of high potassium and phosphorus, tighten education on food sources/additives Fluids ~2-3 L/day water as tolerated; limit sugar-sweetened beverages
4 (Severe decrease)	15-29	<p>Protein: 0.6-0.8 g/kg/day</p> <p>Sodium: <2,000 mg/day</p> <p>Potassium & other considerations: Close monitoring of potassium, phosphorus, bicarbonate, vitamin D</p>	<ul style="list-style-type: none"> Consider fluid prescription/needs Consider VLPD only with expert guidance Encourage patient to see a nephrologist, if not already
5 (Kidney failure - not dialysis)	<15	<p>Protein: 0.6-0.8 g/kg/day</p> <p>Sodium: <2,000 mg/day</p> <p>Potassium & other considerations: Close monitoring of all electrolytes (potassium, phosphorus, bicarbonate); Vitamin D, PTH per nephrology</p>	<ul style="list-style-type: none"> High risk of malnutrition Educate on fluid overload signs (e.g., shortness of breath, edema in ankles/hands, high blood pressure, weight gain of >2 lb in 24 hrs) Counsel on other symptoms (pruritis, fatigue, metallic taste, muscle cramp) Encourage patient to learn about renal replacement therapy options (HD, PD, transplant) as well as comfort care
Dialysis	-	<p>Protein: 1.0-1.2 g/kg/day, possibly higher</p> <p>Sodium: <2,000 mg/day</p> <p>Potassium & other considerations: Individualize potassium & phosphorus targets; vitamin D and PTH per unit protocol</p>	<ul style="list-style-type: none"> High risk for protein-energy wasting; consider higher protein and/or kcal needs Fluid restriction typically 1 L/day + urine output; reassess as urine output declines If prescribed, educate on proper use of phosphorus or potassium binders Manage poor appetite; prevent foodborne illness Coordinate care with dialysis unit RD (preferred primary RD for dialysis patients)

*Patients who are on dialysis, have cancer, diabetes, or who are very physically active may require higher amounts of protein

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HDL-C	<p>While HDL is traditionally considered 'good cholesterol,' evidence indicates this relationship is largely correlative rather than causal. The activities that raise HDL are still protective (exercise, healthy fats, weight management), but our primary therapeutic target remains LDL reduction, which has causal evidence for cardiovascular benefit.</p> <p>Men <40 mg/dL; Women <50 mg/dL: Counsel on aerobic activity (≥ 150 min/wk), smoking cessation, diet rich in fiber and unsaturated fats (olive oil, nuts, fish), weight reduction if indicated. Screen for other evidence of metabolic syndrome (elevated triglycerides, blood pressure, blood sugar, waist circumference).</p>
Triglycerides	<p>For all elevated triglycerides, confirm that the values were obtained in a fasting state before interpretation.</p> <p>150-199 mg/dL: Reduce refined carbohydrates and alcohol intake, increase soluble fiber, avoid saturated fats, weight reduction if needed, manage sleep/stress.</p> <p>200-499 mg/dL: Same guidance as above, add omega-3-rich foods or supplementation. Refer to PCP within 30 days for evaluation.</p> <p>≥ 500 mg/dL (below any lab "critical"): Counsel (urgent) on the above points with added severity, trial low-fat diet (<25% of calories). Refer to PCP within 7 days for evaluation.</p>
Sodium	<p>Laboratory sodium values reflect water and electrolyte balance, not dietary sodium intake, and must be interpreted in the context of the patient's clinical status.</p> <p>Hyponatremia (<135 mmol/L): Most often due to excess water relative to sodium, not just sodium loss. Causes include increased water intake, heart failure, diuretic use, and/or Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH).</p> <ul style="list-style-type: none"> Mild hyponatremia (131-134 mmol/L): Assess fluid intake and medications. Monitor trends. Routine PCP follow-up within 30 days. Refer to PCP within 30 days for evaluation. <p>Hypernatremia (>146 mmol/L): Usually reflects water deficit relative to sodium, such as from dehydration, inadequate water intake, or diabetes insipidus.</p> <ul style="list-style-type: none"> Mild hypernatremia (146-149 mmol/L): Assess fluid intake and barriers to hydration. Counsel on adequate fluid intake. Refer to PCP within 30 days for evaluation. <p>For moderate to severe lab values (≤ 130 or ≥ 150): Refer to PCP within 48 hours for evaluation. If patient has new symptoms (confusion, weakness, nausea/vomiting, seizures, or altered mental status), refer to emergency department.</p>
Chloride	<p>Laboratory chloride values typically parallel sodium levels and reflect acid-base balance and fluid status, not dietary intake. Chloride is most useful when interpreted alongside sodium and bicarbonate (CO₂).</p> <p>Hypochloremia (≤ 97 mmol/L): Common causes include gastrointestinal losses (vomiting, diarrhea), heart failure, chronic lung disease, Addison disease, and metabolic alkalosis.</p> <p>Hyperchloremia (≥ 111 mmol/L): Common causes include dehydration, kidney disease, metabolic acidosis, and over-administration of saline.</p> <p>Isolated mild abnormalities (95-97 or 111-113) without other electrolyte derangements or symptoms: Assess fluid intake, recent GI losses, and medication adherence. Document and monitor trends.</p> <p>Moderate to Severe (≤ 94 or ≥ 114): Review for underlying cardiac, renal, pulmonary, or endocrine disease. Refer to PCP within 48 hours for evaluation. If patient has new symptoms (confusion, severe weakness, shortness of breath, palpitations, altered mental status), refer to emergency department.</p>
Potassium	<p>Laboratory potassium values reflect intracellular and extracellular electrolyte balance, which is tightly regulated by the kidneys and influenced by acid-base status, medications, and cell turnover.</p> <p>Note on hemolysis: Falsely elevated potassium is common in hemolyzed samples. If hyperkalemia is unexpected and the sample appears hemolyzed, request a repeat draw before acting on the result.</p> <p>Hypokalemia (<3.5 mmol/L, or <3.8 mmol/L in those under 20): Common causes include GI losses (vomiting, diarrhea), diuretic use, poor dietary intake, excessive sweating, or hypomagnesemia.</p> <ul style="list-style-type: none"> Mild (3.0-3.4 mmol/L): Counsel on potassium-rich foods (leafy greens, legumes, bananas, potatoes, avocado). Review for GI losses, diuretic use, and magnesium status. Counsel on adequate hydration. Routine PCP follow-up within 30 days (within 2 weeks if patient has heart failure, kidney disease, or liver disease). Moderate (2.6-2.9 mmol/L): Assess for symptoms (muscle weakness or cramps, fatigue, constipation, palpitations). Review medications, GI losses, and recent illness. If symptoms are present, refer to emergency department. If no symptoms, refer to PCP within 7 days for evaluation. Severe (≤ 2.5 mmol/L): Refer to emergency department regardless of symptoms. <p>Hyperkalemia (>5.3 mmol/L, or >5.1 mmol/L in those under 20): Common causes include kidney disease, ACE inhibitors or ARBs, potassium-sparing diuretics, excessive supplementation, adrenal insufficiency, or acidosis. Rule out pseudohyperkalemia from hemolyzed sample.</p> <ul style="list-style-type: none"> Mild (5.4-5.9 mmol/L): Review medications, supplements, and kidney function. Counsel on moderating high-potassium foods if intake is excessive, and avoiding NSAIDs and salt-substitutes. PCP follow-up within 1 week, or sooner if symptomatic. Moderate (6.0-6.4 mmol/L): Refer to urgent care or emergency department for ECG and evaluation regardless of symptoms. Severe (≥ 6.5 mmol/L): Refer to emergency department regardless of symptoms.

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Bicarbonate (CO₂)	<p>Laboratory bicarbonate reflects acid-base balance in the body. Abnormal values usually indicate an underlying medical condition requiring physician evaluation.</p> <p>Low Bicarbonate (<20 mEq/L): Common causes include kidney disease, uncontrolled diabetes, severe diarrhea, or lactic acidosis.</p> <ul style="list-style-type: none">• Mild (17–19 mmol/L): Counsel on hydration, review medications, and monitor for symptoms. PCP follow-up within 30 days.• Moderate to severe (<17 mmol/L): Assess for acute symptoms and underlying etiology. Refer to PCP within 48 hours; if new or severe symptoms (confusion, rapid breathing, fatigue, palpitations, or altered mental status), or if patient has Diabetes with Hyperglycemia (concern for DKA), refer to emergency department. <p>High Bicarbonate (>32 mEq/L): Common causes include chronic vomiting, diuretic use, chronic lung disease, or excessive antacid use.</p> <ul style="list-style-type: none">• Mild (33–35 mmol/L): Counsel on hydration, review medications, and monitor for symptoms. PCP follow-up within 30 days.• Moderate to severe (>35 mmol/L): Assess for acute symptoms and underlying etiology. Refer to PCP within 48 hours; if new or severe symptoms (confusion, arrhythmia, altered mental status), refer to emergency department.
Calcium	<p>Laboratory calcium values reflect calcium homeostasis, which is regulated by parathyroid hormone (PTH) and vitamin D.</p> <p>Hypocalcemia (<8.6 mg/dL): Common causes include postsurgical or autoimmune hypoparathyroidism, vitamin D deficiency, chronic kidney disease, pancreatitis, or magnesium deficiency.</p> <ul style="list-style-type: none">• Mild (8.0–8.5 mg/dL): Review for recent surgery, medications (incl. antacid use), malnutrition, or GI losses. Counsel on dietary calcium and vitamin D intake, medication adherence, and symptom monitoring (numbness, tingling, muscle cramps). Refer to PCP within 30 days for evaluation, or sooner if symptomatic.• Moderate to severe (<8.0 mg/dL): Perform a symptom check (seizures, palpitations, muscle cramps, numbness, tingling, altered mental status). Review for underlying endocrine, renal, or GI disease. Refer to PCP within 48 hours for evaluation. If new symptoms, refer to emergency department <p>Hypercalcemia (>10.3 mg/dL): Most common cause is excess supplementation of Vitamin D or Calcium. Others include hyperparathyroidism, malignancy, thiazide diuretics, or immobilization.</p> <ul style="list-style-type: none">• Mild (10.4–12 mg/dL): Review for supplements, medications, and comorbidities. Counsel on hydration, medication adherence, and symptom monitoring (fatigue, constipation, nausea, vomiting). Refer to PCP within 30 days for evaluation, or sooner if symptomatic.• Moderate to severe (≥12 mg/dL): Perform a symptom check (nausea, vomiting, constipation, fatigue, dehydration, confusion, palpitations). Refer to PCP within 24–48 hours for evaluation. If new symptoms, refer to emergency department.

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