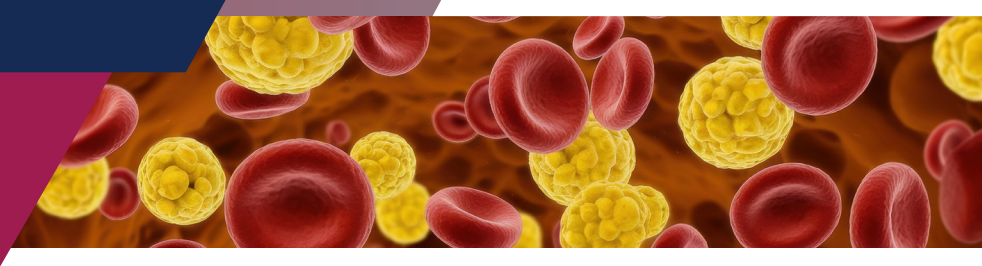
Severe Hypertriglyceridemia:

Recognize Risk, Diagnose, & Treat

AMERICAN COLLEGE of CARDIOLOGY

Higher triglycerides (TG) can signal serious risks for your patient's heart and pancreas. Early recognition, accurate diagnosis and guideline-directed management can improve outcomes.



WHEN IS IT SEVERE?

500-999 mg/dL — **Severe hypertriglyceridemia:** cardiovascular disease and pancreatitis risk is increased.

≥ 1000 mg/dL — **Extreme hypertriglyceridemia/chylomicronemia:** pancreatitis risk is particularly high.

Persistent chylomicronemia: TG ≥ 1000 mg/dL in more than half of measurements.

TWO MAJOR RISKS

ASCVD

- TG-rich remnant particles are associated with increased ASCVD risk.
- Assess LDL-C plus non-HDL-C or apolipoprotein B (apoB) and treat overall ASCVD risk.
- Statins remain first-line therapy for reducing ASCVD-risk.

ACUTE PANCREATITIS

- Risk rises at TG **≥500 mg/dL** and is especially high at **≥1000 mg/dL.**

Red flags: Severe persistent upper-abdominal pain, nausea and vomiting → urgent medical evaluation.

DIAGNOSIS: EVALUATE FOR SECONDARY CAUSES

Check for and address:

- ✓ Uncontrolled diabetes/hyperglycemia.
- ✓ Obesity/insulin resistance.
- ✓ Alcohol.
- ✓ High intake of refined carbohydrate and sugar.
- ✓ Hypothyroidism.
- ✓ Kidney/liver disease.
- ✓ Pregnancy.
- ✓ TG-raising medicines (estrogens, glucocorticoids, some antipsychotics, retinoids, thiazides, beta-blockers, immunosuppressants).

Repeat fasting TG when appropriate; review serial values.

Check lipid panel with non-HDL-C or apoB.

Assess A1c/glucose, thyroid-stimulating hormone and other tests according to clinical context.

WHEN TO SUSPECT FAMILIAL CHYLOMICRONEMIA SYNDROME (FCS)

Persistent TG 1000 mg/dL

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Exclude/manage secondary causes.

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Look for alarm features.

Alarm features include:

- Recurrent TG-induced pancreatitis.
- Recurrent unexplained severe abdominal pain/hospitalizations.
- Childhood pancreatitis.
- Family history of TG-induced pancreatitis.
- Early disease onset.
- Refractoriness to conventional TG-lowering therapy.
- Low/normal apoB.

Distinguish rare monogenic FCS from much more common multifactorial chylomicronemia (MCS).

GENETIC TESTING: WHEN?

- Consider panel-based genetic testing when severe/persistent TG elevation remains unexplained after secondary causes are addressed, especially when clinical features suggest FCS or there is a pancreatitis history.
- Testing can distinguish genetically confirmed FCS from multifactorial chylomicronemia and may guide specialist therapy and family counseling.
- A negative genetic test does not eliminate pancreatitis risk or the need to treat persistent chylomicronemia.
- Consider referral to a lipid specialist/genetic counselor; FCS clinical scoring tools can help estimate likelihood before testing.

TREATMENT & MANAGEMENT

STEP 1
All Patients

- Treat secondary causes.
- Weight management.
- Regular physical activity.
- Avoid alcohol.
- Reduce added sugars/refined carbohydrates.
- Optimize diabetes and other metabolic drivers.

STEP 2
If TG 500-999 mg/dL

- Reduce fat intake to 20-25% of total calories and limit saturated fat.
- NO alcohol.
- Consider fenofibrate or prescription omega-3 fatty acids (FA) to reduce pancreatitis risk.
- Manage ASCVD risk with statin when indicated.

STEP 3
If TG >1000 mg/dL

- Reduce fat intake to 10-15% of total calories and limit saturated fat.
- NO alcohol.
- Fibrate and/or prescription omega-3 FA as appropriate.
- Consider treatment with novel apolipoprotein C-III-targeted TG-lowering therapy.

TARGETS & MONITORING

For pancreatitis prevention, aim to bring TG well below:

500 mg/dL

Risk falls markedly below about 440 mg/dL, though risk is not zero.

Recheck TG after lifestyle/pharmacologic changes and track serial measurements.

KEY TAKEAWAYS

- ✓ TG 500-999 mg/dL = severe; ≥1000 mg/dL = extreme.
- ✓ Assess ASCVD risk and pancreatitis risk.
- ✓ Address secondary causes and use clinical scoring tools for FCS and consider genetic testing when appropriate.
- ✓ Treat stepwise with lifestyle, medications and specialist involvement as needed.
- ✓ Aim for TG <500 mg/dL to reduce pancreatitis risk and monitor.

SOURCES

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