Congestive Heart Failure

Clinical Protocol to Support Cardiovascular and Circulatory Function*

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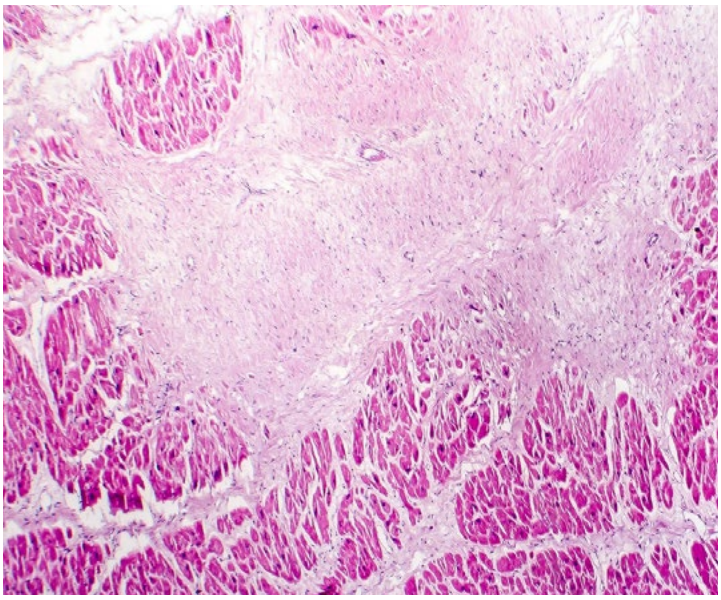

Heart failure, also known as congestive heart failure (CHF), is a complex syndrome characterized by an inability of the heart to pump enough blood to meet the body's requirements. The presentation of symptoms generally includes shortness of breath, fatigue, fluid retention (pulmonary and peripheral edema), and reduced exercise tolerance. Common causes of CHF are coronary artery disease (CAD), hypertension (HTN), valvular heart disease, and dilated cardiomyopathy. There is an increased risk of developing CHF in individuals with metabolic syndrome, diabetes, CAD, HTN, and impaired renal function. In addition to the heart, other organ involvement commonly associated with CHF includes the liver, kidneys, and lungs, with up to 40% of CHF patients experiencing chronic obstructive pulmonary disease.

Overall, the prevalence of CHF is increasing in the U.S. Although prevalence increases with age, with incidences among those 80 to 86 years of age at 14%, CHF is increasing in patients younger than 50 years of age due to higher rates of comorbidities. Some goals of management include symptom reduction, treating the underlying cause, management of associated conditions, and preventative care, in addition to pharmacological therapy and cardiac rehabilitation. Prevention of CHF includes early detection, risk factor reduction, and treating underlying causes, such as hypertension and lifestyle modifications.[1-7]

This clinical protocol is designed to support a healthy cardiovascular system and includes evidence-based lifestyle, dietary, and nutritional interventions for CHF.*

Diagnostic Biomarkers and Clinical Indicators of CHF

Classification of CHF is typically indicated by either the New York Heart Association (NYHA) functional classification I-IV or the American College of Cardiology Foundation/American Heart Association (ACCF/AHA) A-D staging.[4-8] Diagnosis is multifactorial and generally involves a full diagnostic workup from a cardiologist, including the exploration of underlying causes.

- Complete blood count
- Serum electrolytes
- Liver function tests
- Fasting blood glucose
- Fasting lipid profile
- Thyroid stimulating hormone
- B-type natriuretic peptide, plasma
    - <100 pg/mL; <28 pmol/L (SI)

For assessing risk of developing CHF[4-5]

- Framingham risk score or ABC heart failure risk score

Other possibly relevant studies, depending on initial evaluation include iron studies, thiamine, carnitine, and selenium.[6-7]

Therapeutic Diet and Nutritional Considerations

- Advise patients to consume plant-based diets or the Mediterranean diet, emphasizing intake of fruits, vegetables, and antioxidant-rich foods[3]
- Recommend avoidance of excessive sodium intake. Consider the Dietary Approaches to Stop Hypertension (DASH) diet[3]
- Consider dietary sources or supplementation with micronutrients associated with CHF including: omega-3 fatty acids, L-carnitine, CoQ10, magnesium, thiamine, riboflavin, pyridoxine, vitamin C, vitamin D, taurine, and selenium[9]

Lifestyle Interventions

- Counsel on alcohol moderation and smoking cessation[2]
- Recommend regular exercise appropriate to the individual's abilities as directed by their cardiologist[2]
- Consider mind/body interventions such as yoga, meditation, and tai chi[3]

Supplement Protocol

Primary Support:

Ribo-CarniClear™

Dose	1 teaspoon (5 mL) per day on an empty stomach	**Duration**	Ongoing
Formula Highlights	Ribo-CarniClear™ liquid is a tasty way to get high servings of ribose and carnitine, two very important nutrients known for heart health, cardiac muscle energy enhancement, and muscle recovery.* Both of these nutrients promote cellular energy production. Carnitine specifically promotes energy levels by helping transport fatty acids into the mitochondria to be converted to energy as ATP.* Vitamin B5 (pantothenic acid) is included to enhance the function of carnitine in fat metabolism.		

CoQnol™ 200

Dose	2 to 3 softgels per day	**Duration**	Ongoing
Formula Highlights	CoQnol™ 200 features a unique combination of ubiquinol and trans-geranylgeraniol (GG). The GG complements the actions of ubiquinol by enhancing absorption and supporting endogenous CoQ10 synthesis naturally in the body.* This formula provides 200 mg ubiquinol as DuoQuinol™ and 125 mg trans-geranylgeraniol as GG-Gold® per serving, a patented form of GG extracted from annatto seeds, along with quillaja extract for enhanced absorption and bioavailability.		

TriMag Supreme™

Dose	1 scoop twice daily	**Duration**	Ongoing
Formula Highlights	TriMag Supreme™ is a unique blend of three highly bioavailable forms of magnesium designed to support cardiovascular health.* It contains magnesium orotate, magnesium glycerophosphate, and TRAACS® magnesium bisglycinate chelate. One serving provides 300 mg of elemental magnesium in an easy-to-mix powder. TriMag Supreme™ is naturally sweetened with monk fruit and contains no stevia or artificial sweeteners.		

OmegAvail™ TG1000

Dose	1 softgel per day	**Duration**	Ongoing
Formula Highlights	OmegAvail™ TG1000 is a highly potent, non-GMO fish oil containing an impressive 1,000 mg omega-3 oils per softgel, making it an ideal choice when more aggressive doses are desired. Each softgel contains 662 mg eicosapentaenoic acid (EPA) and 250 mg docosahexanoic acid (DHA), along with other omega-3 fatty acids.		

For a list of references cited in this document, please visit:
https://www.designsforhealth.com/api/library-assets/literature-reference---congestive-heart-failure-support-protocol-references

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

For considerations regarding herb-drug and nutrient-drug interactions, please refer to reliable, evidence-based resources such as the Natural Medicine Database or Stargrove MB, Treasure J, McKee DLHer. *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*. St. Louis, MO: Mosby-Elsevier; 2008.

***These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.**