**OPTIMIZING STATIN UTILIZATION AND TREATMENT ADHERENCE AMONG PATIENTS WHO DISCONTINUE STATINS DUE TO ADVERSE MUSCLE EVENTS - A PERSONALIZED APPROACH**

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Statin therapy has been established as first-line therapy for the prevention of atherosclerotic cardiovascular disease (CVD) events. Under the formal structure of controlled clinical trials, adherence to statins exceeds 90 percent. In less than 5 percent of treated study participants, statins have been discontinued due to perceptions of drug-induced adverse events. In real world studies that comprise data obtained from various sources (surveys, registries and insurance claims), statin adverse events range may be as common as 10 to 20 percent. As adverse events are more common at higher dosages of statins, many patients are unable to continue with evidence-based and guideline-directed high-intensity statin therapy. Among myocardial infarction survivors, patients who down-titrate their statins due adverse events have higher rates of myocardial infarction and other coronary heart disease (CHD) events that result in more hospitalizationsand consequently health care expenditures that are 1.5-fold higher in the year after statin downtitration.

Most statin associated adverse events are not life-threatening and may not recur upon challenge with lower doses or other statins. Thus, it is critical to develop a comprehensive strategy designed to improve treatment adherence to statins in patients who perceive that their muscle symptoms are statin-induced. These processes involve a validated tool for assessment of statin associated adverse muscle symptoms, a dechallenge-rechallenge phase, and engagement of the patient who may be resistant to re-challenge with a different statin or reduced dosage of the same statin. Genetic susceptibility to statin muscle symptoms represent potential tools for identification of individuals who report muscle symptoms. Recent studies have identified gene networks that predispose patients to muscle symptoms, and contribute to the heterogeneous response that encompasses the spectrum of statin associated muscle symptoms.