

## DIABESITY COURSE AGENDA AND OBJECTIVES

Morning Session 8:30-11:30 AM

### DIABESITY: THE 21ST CENTURY PANDEMIC

- Defining Diabetes. Redefining type 2 diabetes: 'Diabetes' or 'obesity dependent' diabetes mellitus.
- Insulin resistance, prediabetes, & metabolic syndrome: What role do they play in the development of diabetes?
- Key metabolic defects: How can we improve insulin sensitivity and preserve b-cell function?
- Diabetes: an inflammatory metabolic condition. Is this a greater risk factor for cardiovascular disease?

### DIABETES AND OBESITY: WHY DO WE HAVE TWIN EPIDEMICS?

- Genetics: the role of heredity in determining risk. Interaction between genetics and environment.
  - Can we use genetics to target diabetes and obesity prevention? The Thrifty Gene Hypothesis.
- Thrifty phenotype hypothesis: Are we programmed for obesity and chronic disease during fetal life?
- Key role of the brain in controlling body fat, glucose metabolism and appetite control.
  - Role of leptin, ghrelin, adiponectin. New and exciting targets for diabetes control.
  - Leptin and its relationship to obesity and insulin. Is leptin the drug of the future?
- Current guidelines for managing diabetes and obesity.
- Diabetes in American children: What can be done to stop the epidemic?

### BODY FAT DISTRIBUTION: ITS ROLE IN DIABESITY

- Visceral adipose tissue (VAT): Can it cause metabolic disturbances such as insulin resistance and diabetes?
  - Metabolically obese normal weight vs. metabolically normal obese. Can we be fit and fat?
- Health risks associated with VAT: A new paradigm for the role of fat as an endocrine organ.
  - Fat cells and inflammation. The Role of Inflammation in the development of diabetes.
  - The ectopic fat storage syndrome – how it contributes to the pathogenesis of diabetes and CVD.

Afternoon Session 11:45 AM - 2:45 PM

### PHARMACOLOGIC INTERVENTIONS TO ADDRESS DIABESITY: PREVENTION AND MANAGEMENT

- Drug therapy: When is it appropriate and who are good candidates?
- Drugs on the horizon for diabetes. Agents that address diabetes and cardiovascular disease risks.
  - Byetta®, Exubera® (inhaled insulin), and the potential role of Dual Alpha-Gamma PPAR agonists.
- Drugs to prevent or delay diabetes: How do they work?
  - Role of thiazolidinediones in preserving and rejuvenating b-cells. Can and should they be used to prevent diabetes?
  - Use of antihypertensive and weight loss drugs to prevent diabetes and treat obesity.
  - Orlistat in the treatment of diabetes. Are weight loss medications effective?
  - How do weight loss medications effect VAT stores? Do they reduce inflammation?

### LIFESTYLE INTERVENTIONS FOR DIABESITY: THE STATE OF THE SCIENCE

#### Diet

- The new My Pyramid. A review of the new dietary recommendations for Americans.
- Tackling diabetes head-on. Joslin Diabetes Center's new nutrition guidelines. Managing glucose & insulin.
- Comparison of popular dietary approaches. Which are best for regulating glucose, insulin and weight loss?
- The glycemic index: Amount and type of carbohydrate to prevent and manage diabetes.
- Importance of dietary fiber. The new guidelines for dietary fiber intake. The secret potion to weight loss?

#### Exercise

- The biological basis of how physical inactivity leads to chronic disease.
- Evidence that the human genome has been genetically designed to be physically active.
- Relationship between sedentary lifestyle and increases in VAT (The STRRIDE Study).
- Exercise guidelines for controlling diabetes.

### SURGICAL INTERVENTIONS: CAN THEY PREVENT OR DELAY DIABESITY

- Liposuction: can it improve insulin action and reduce risk factors for coronary heart disease?
- Surgery as an effective early intervention for diabetes: Why the reluctance?

## Course Objectives

- Define diabetes and its global implications.
- List current pharmaceutical therapies for the management of diabetes and obesity in both adults and children.
- Identify the role of the fat cell in the development of diabetes.
- List the health complications associated with diabetes and strategies to manage/prevent the adverse health consequences.
- List dietary and exercise strategies for the management/prevention of diabetes.