Insulin Resistance

- Compensatory hyperinsulinemia/mild hyperglycemia
- Obesity
- Beta-cell exhaustion/diabetes
- MAP kinase pathway hyperactivity
- Dyslipidemia

Lipid overflow-ectopic fat accumulation

- Visceral obesity-dysfunctional adipose tissue
- Non-esterified fatty acid (NEFA) transfer to:
  1) liver (fatty liver) → impaired liver metabolism-hepatic insulin resistance
  2) Increased ectopic fat apposition (muscle/epicardial fat) → insulin resistance

- ↑ production of TNF-α, IL-6
- ↓ production of adiponectin

Metabolic syndrome

Atherosclerosis
Cardiovascular diseases