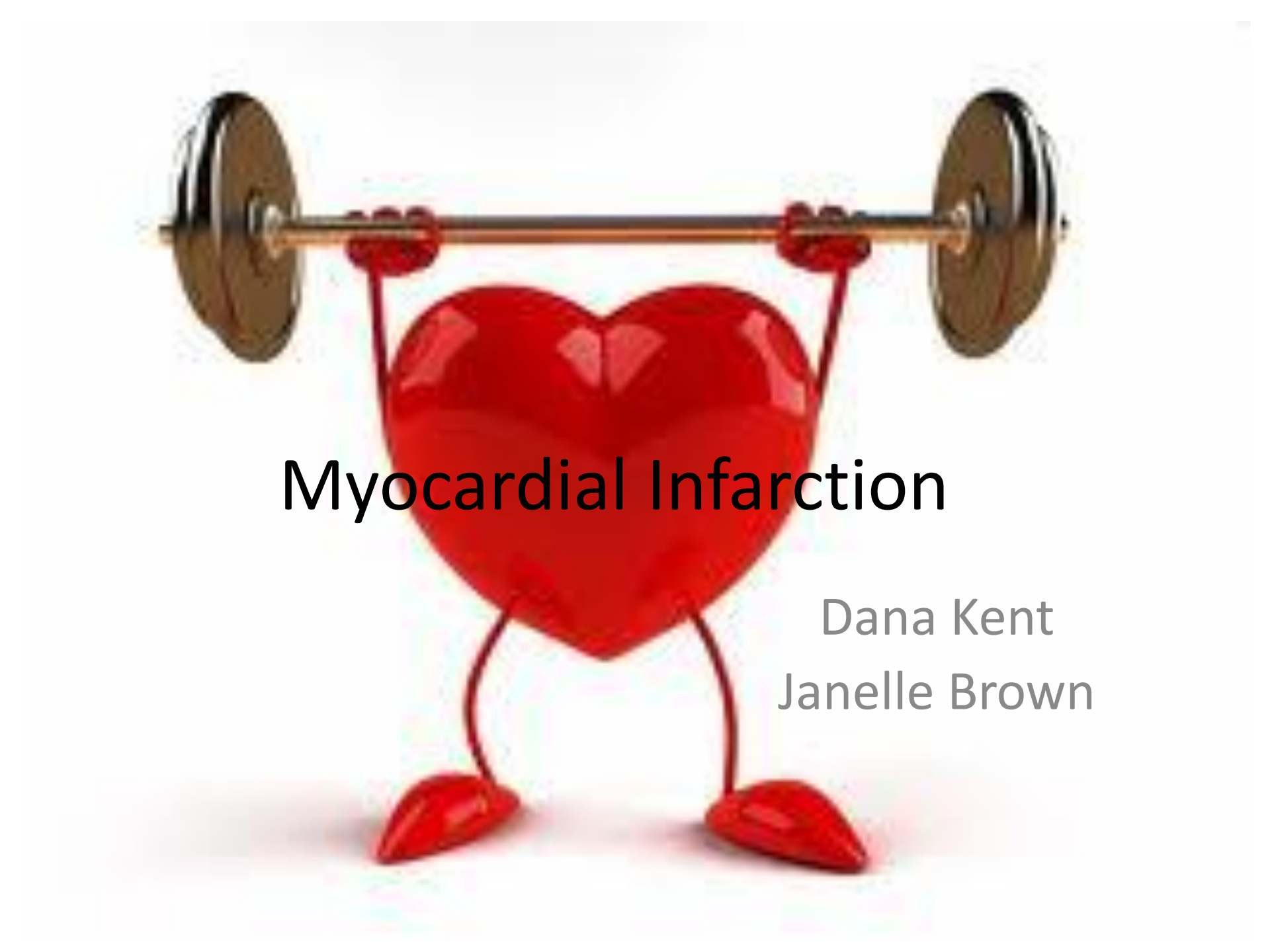


Myocardial Infarction

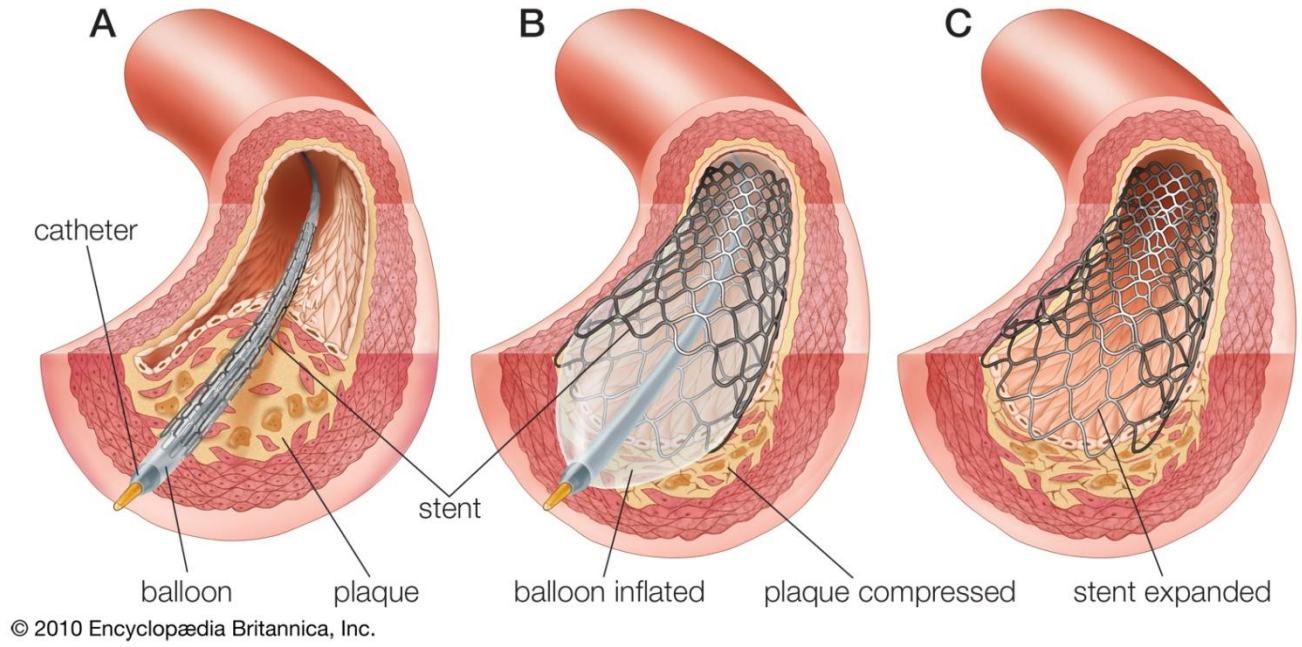
Dana Kent
Janelle Brown

Myocardial Infarction

- http://www.youtube.com/watch?v=n8P3n6GKBSY
- Commonly Referred to as a “Heart Attack”
- 2° Atherosclerosis (CAD)

Procedure

- Angioplasty with Stent Placement
- http://www.youtube.com/watch?v=S9AqBd4RExk



Prevalence

- **1.2 Million MI Episodes Each Year**

  http://www.nhlbi.nih.gov/health/health-topics/topics/heartattack/

- **Cardiovascular Disease:**

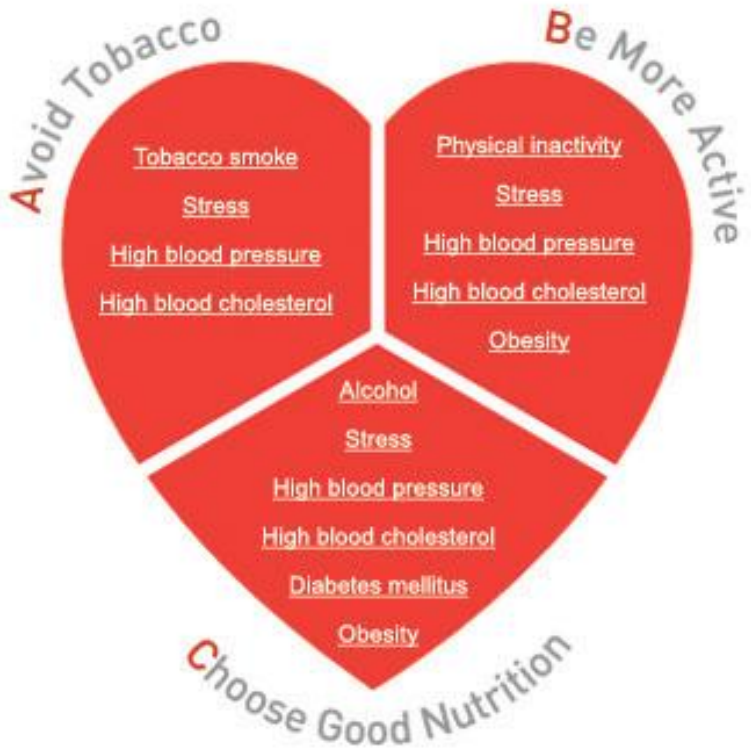
  The leading cause of death in the US

  (~600,000 deaths/year)

  http://www.cdc.gov/nchs/fastats/lcod.htm

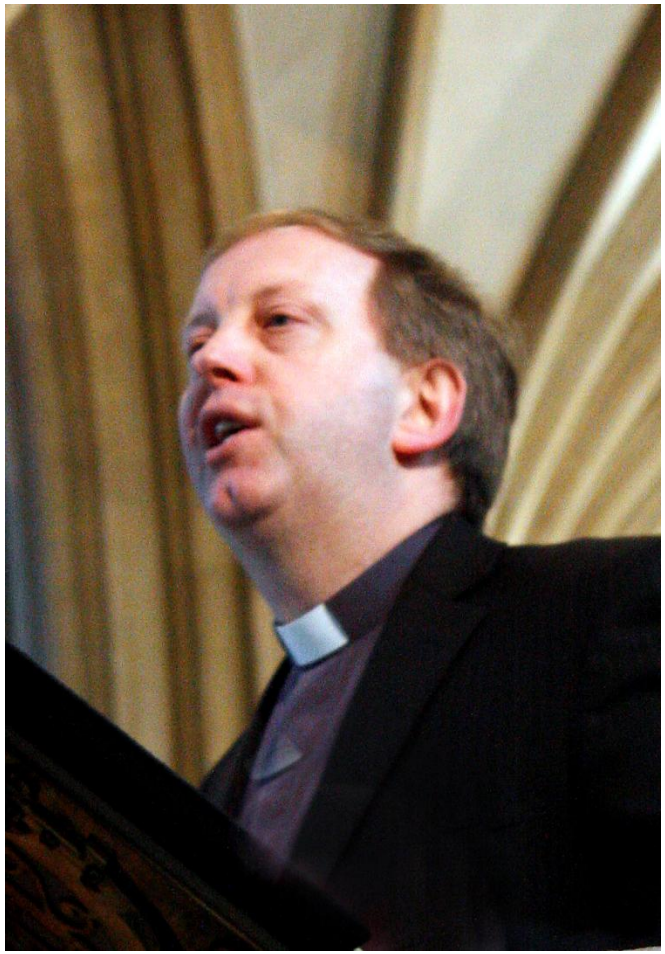
Risk Factors

1. Cigarette Smoking
2. Dyslipidemia
3. Hypertension
4. Diabetes
5. Physical Inactivity
6. Obesity



James Klosterman

- **Sex:** Male
- **Age:** 61 years old
- **Ethnic Background:** German
- **Chief complaint:** Severe unrelenting chest pain
- **Admit diagnosis:** Myocardial Infarction



Anthropometrics

- **Weight:** 185 lbs (84 Kg)
- **Height:** 6’1” (180cm)
- **BMI:** 26.5 (mildly overweight)
- **IBW:** 150-182

Estimated Energy Requirements

- **BEE** = 66.5 + 1159 + 900 – 414 = 1711 kcals/day
- **TEE** = 1711 kcals/day x 1.4 x 1.2 = 2875 kcals/day
- **EER = 2875 kcals/day**

- 30-35 kcals/kg x 84kg = **2,520 – 2940 kcals/kg**

- **Protein Req:** 109g/day (1.3g/kg)

Medical History

- Cholecystectomy 10 years ago
- Apendectomy 30 years ago
- History of emphysema/ lung problems

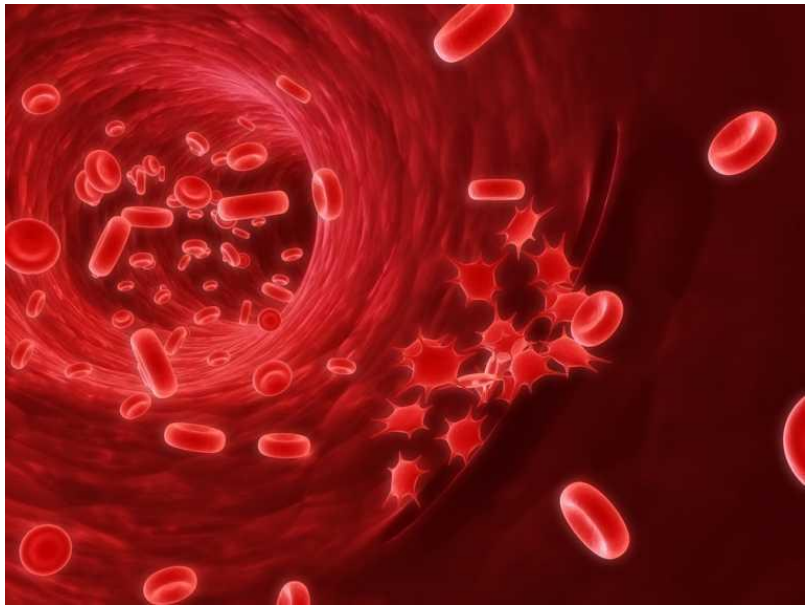
  ~Smokes 1 pack per day for 40 years
- No prior incidence of Angina
- No known history of hypertension, diabetes or high cholesterol.

Lifestyle

- 15 minutes of physical activity daily
- **Career:** Lutheran Minister
- Wife shops for and prepares all meals

Risk Factors

- Smokes 1 Pack/Day for 40 years (1RF)
- Father-coronary artery disease and MI at 59 (1RF)
- Low to No Physical Activity (1RF)



Biochemical Assays

	Normal	Day 1	Day 2	Day 3
Total CO2 mEq/l	23-30	20 (L)	24	26
Glucose mg/dL	70-100	136 (H)	106	104
Total Chol mg/dL	120-199	235 (H)	226 (H)	214 (H)
HDL mg/dL	>45 men	30 (L)	32 (L)	33 (L)
LDL mg/dL	>130 men	160 (H)	150 (H)	141 (H)
LDL/HDL ratio	<3.55 men	5.3 (H)	4.7 (H)	4.3 (H)
Apo A L	94-178 men	72 (L)	80 (L)	98
Troponin I ng/dL	<0.2	2.4 (H)	2.8 (H)	-
Troponin T ng/dL	<.03	2.1 (H)	2.7 (H)	-

Dietary History

- No Known Food Allergies
- Previous Diet Consult 1 Year Ago
- Wife Purchases/Prepares All Meals (Switching Oils to PUFAs)

24-Hour Recall	
Breakfast	NONE
Snack	1 Cinnamon Raisin Bagel (LG) 1 T FF Cream Cheese, 8oz Orange Juice, Coffee (black)
Lunch	1 Can (16oz) Vegetable Beef Soup, Sandwich with 4oz Roast Beef, Lettuce, Tomato, Dill Pickles, 2 t Mayo, 1 Apple, 8oz 2% Milk
Dinner	2 Lean Pork Chops (3oz each), 1 Large Baked Potato, 2 t Margarine, ½ c Green Beans, ½ Cup Coleslaw w/ Salad Dressing, 1 Slice Pie
Snack	8oz 2% Milk, 1oz Pretzels

Dietary Analysis – 24 Hr Recall

Nutrient	Intake
Total Calories	2,626 Kcals
Carbohydrate	344g (52%)
Protein	138g (21%)
Fats	78g (27%)
Sat Fat	22g (8%)
Trans Fat	2.1g
Cholesterol	275mg
Sodium/Potassium	5,633mg/5,271mg
Fiber	26g
Vitamin A	4,984 IU
Vitamin C	142mg
Calcium	1064mg
Iron	19.6

Cardiac Diet

- **Specific Dietary Recommendations:**

"MNT is effective at decreasing blood lipid levels and increasing blood levels of folate, vitamin B6 and B12." (Lim & Choi, Grade I)

  - *Education Included*:
    - Motivational interviewing
    - Transtherotical model
    - Information about hyperlipidemia
    - Balancing food intake with physical activity
    - Cholesterol & fat content of food
    - Moderate salt consumption
    - Tips for eating out

Cardiac Diet

- Decrease intake of saturated/trans Fats*

  ~Replace with MUFA's & some CHO*

  [from fruits, veg, & whole grains]

  *(Berlung et al, Grade I)
- Decrease intake of dietary cholesterol
- Decrease intake of sodium

Diagnosis

- Food and nutrition-related knowledge deficit(NB 1.1) related to limited dietary changes after prior education from community dietitian as evidenced by 24-hour food recall.
- Physical inactivity (NB-2.1) related to heavy smoking and not incorporating exercise into daily routine as evidenced by patient report of 15 minutes daily excercise.

Intervention

- **Meals and Snacks (ND-1)**

  Diet Order: Cardiac Diet (AHA Diet)

American Heart Association®

Learn and Live

Intervention

- **Comprehensive Nutrition Education (E-2)**
  - ½-1 cup Daily of **Unsalted Nuts** (NEL Summary)
  - Increase consumption of **plant sterols/stanols** (EAL Summary Statement, Grade I) through rich sources/fortified products

    ~Wheat germ, corn canola & olive oils, peanuts, almonds, brussels sprouts, rye bread, macadamia nuts, *benecol* & *take control* spreads
  - Switch to ½ **whole grain** baked products
  - Home-made soups or **low sodium** varieties

Intervention

- **Coordination of Other Care During Nutrition Care (RC-1)**
  - **Referral to Cardiac Rehab Center**

    ***Follow up with **Outpatient Dietician**

    ***Increase Physical Activity** to two 15 min walks each day

    "Exercise has shown to reduce all cause mortality and cardiac mortality in secondary prevention patients"

    (ADA Conclusion Statement Grade II).

  - **Referral to Smoking Cessation Counseling:**

    ~Smokes 1 pack/day for 40 years

Medications

- Aspirin 160 mg/day
- Lopressor 50 mg/day

  *Beta Blocker used to treat high blood pressure and Angina
  (take consistently each day, food may increase bioavailability)
- Lisinopril 10 mg/day

  *ACE inhibitor used to treat high blood pressure (May Increase lipid levels of **Potassium**)
- Nitro-Bid 9 mg/twice daily

  *Vasodilator used to relax and widen blood vessels
- Lipitor 10 mg/day at bedtime

  *Statin used to decrease cholesterol (AVOID **GRAPEFRUIT** & RED YEAST RICE)

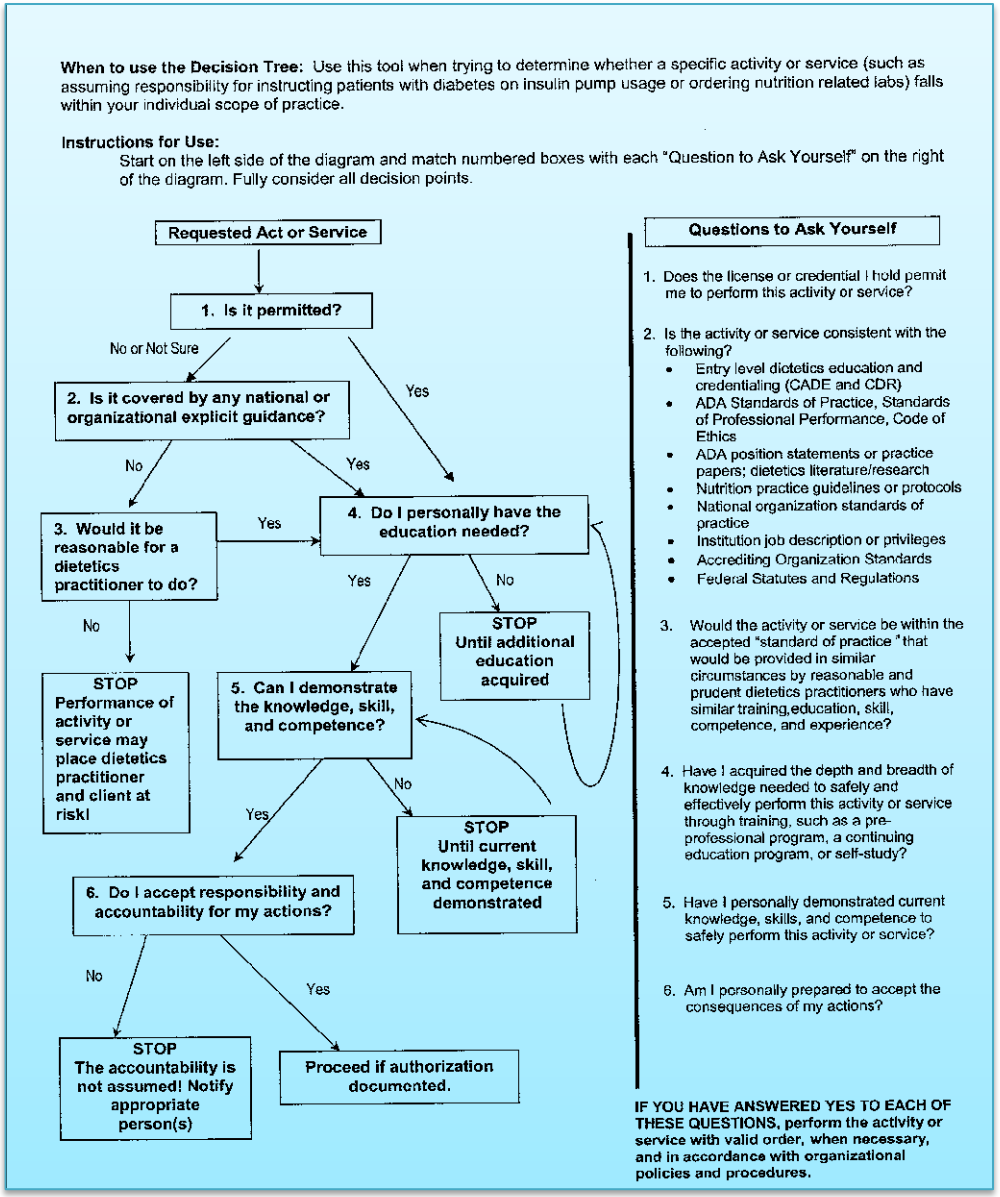
*Its is suggested to avoid alcohol with most of these medications.

Intervention

- **Goals:**
  - Patient tolerance of/adherence to cardiac diet (patient consumes >75% of meal trays)
  - Serum Lipids Goal: **LDL** < 100 **HDL** >45
  - Patient goes to Cardiac Rehab Center
  - Patient goes to Smoking Cessation Therapy

ADA Decision Tree Tool

Scope of Practice:
1.Nutrition Education
2. Smoking
3. Physical Activity



Monitoring & Evaluation

- Monitor food intake from trays daily
- Check for patient follow up with outpatient dietitian for lipid monitoring.
- Check for follow up with smoking cessation.

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