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An integrated model of rehabilitation, relaxation methods and Mediterranean diet in patients with heart failure: the experience of UCSD

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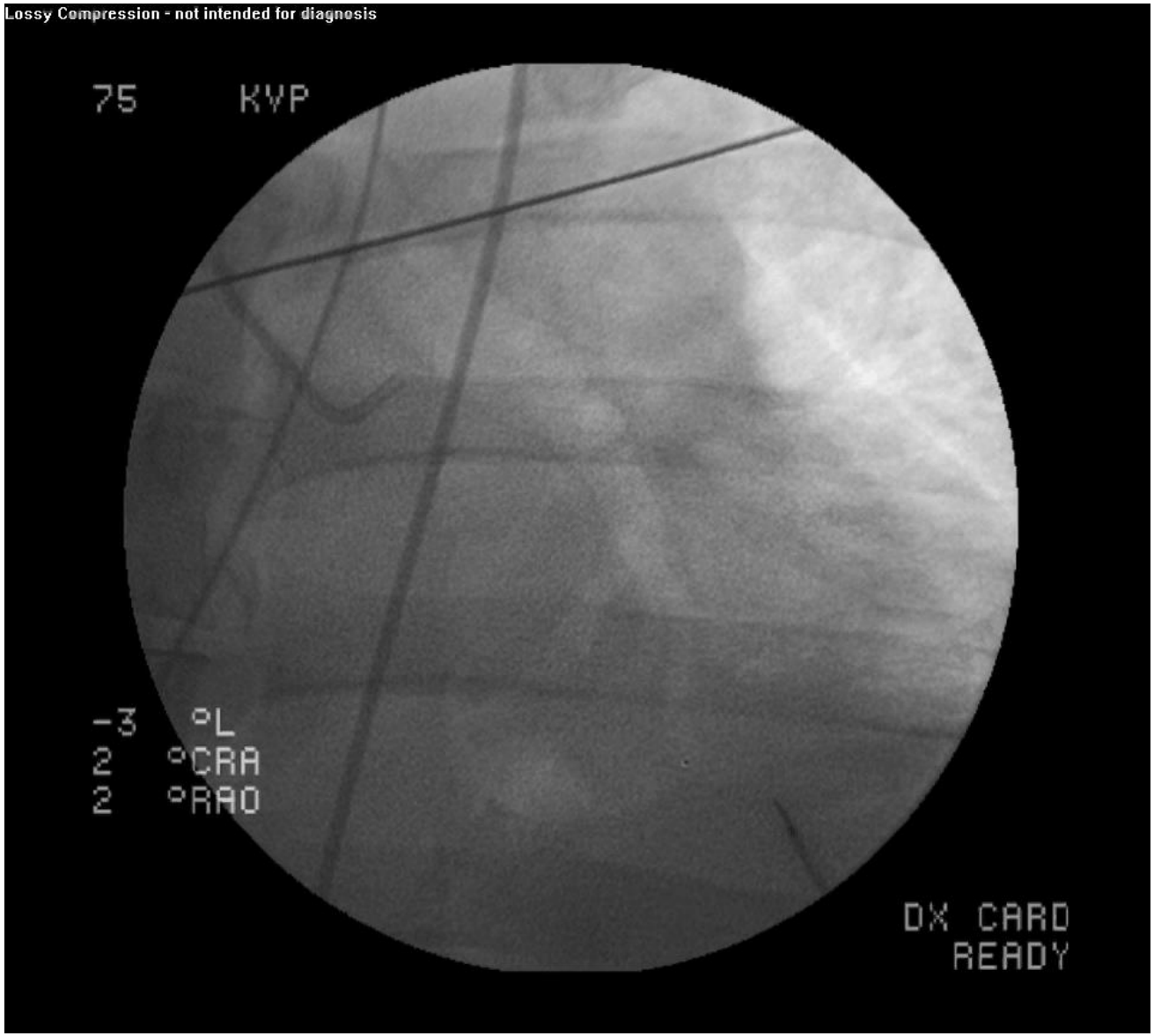
Associate Professor of Medicine
UC San Diego Health

Overview of Talk

- Case presentation
- The importance of lifestyle changes in improving cardiovascular health
- Overview of our cardiac rehabilitation program at UCSD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75 KVP
-3 °L
2 °CRA
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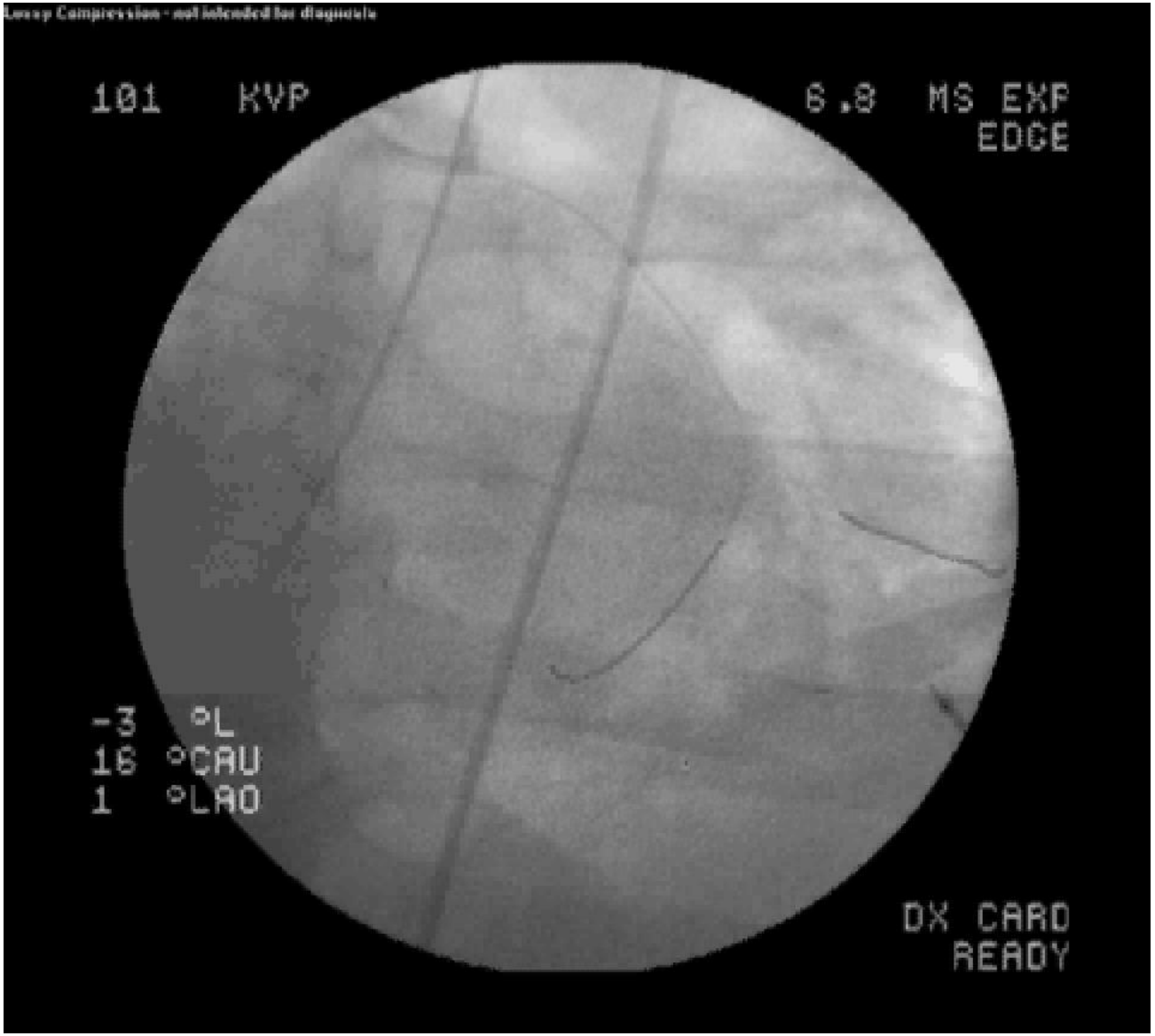
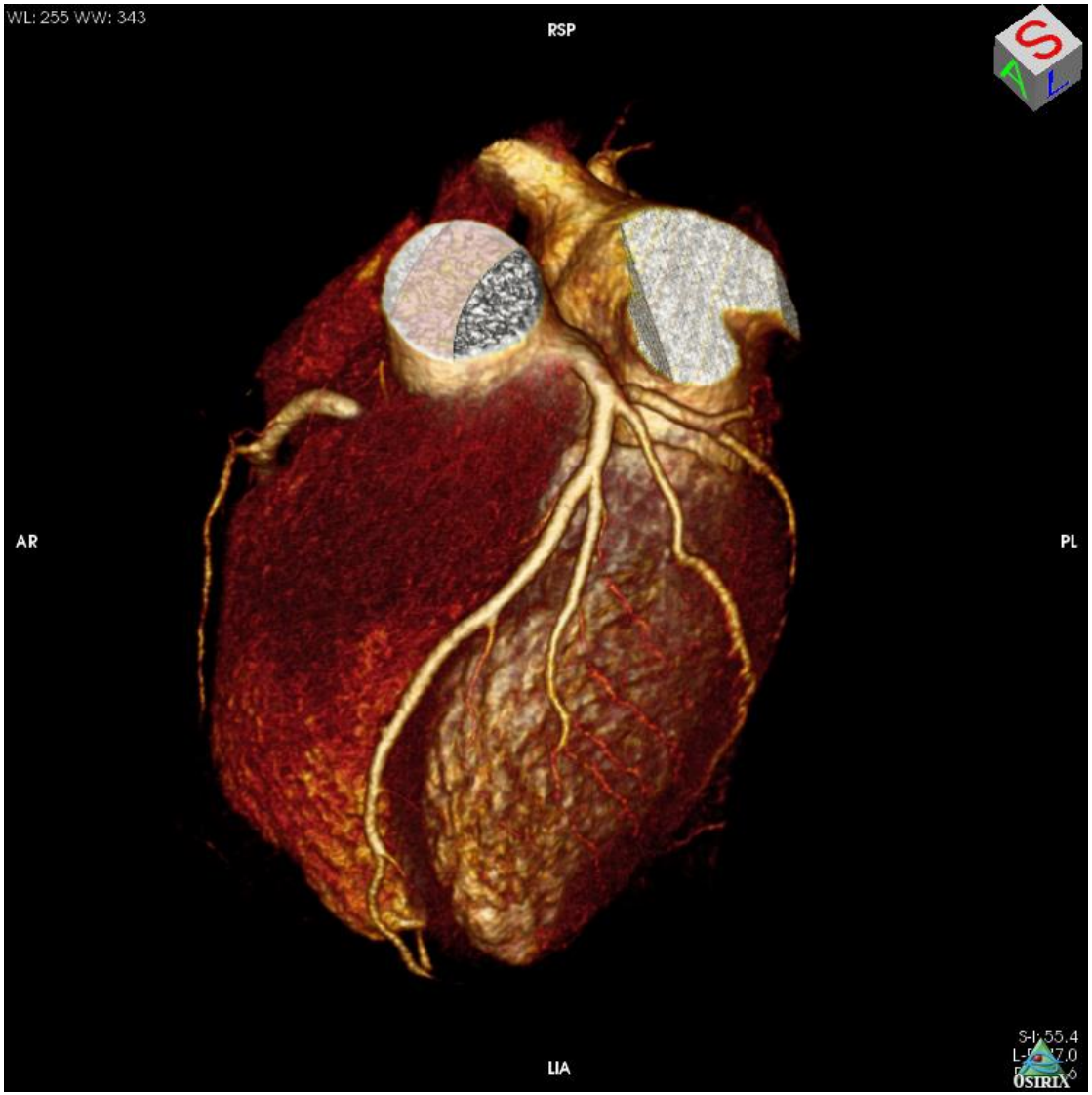
DX CARD
READY


101 KVP
6.8 MS EXP
EDGE
-3 °L
16 °CAU
1 °LAO
DX CARD
READY



Chen, Pourmorteza, McVeigh et. al. NIH - UCSD

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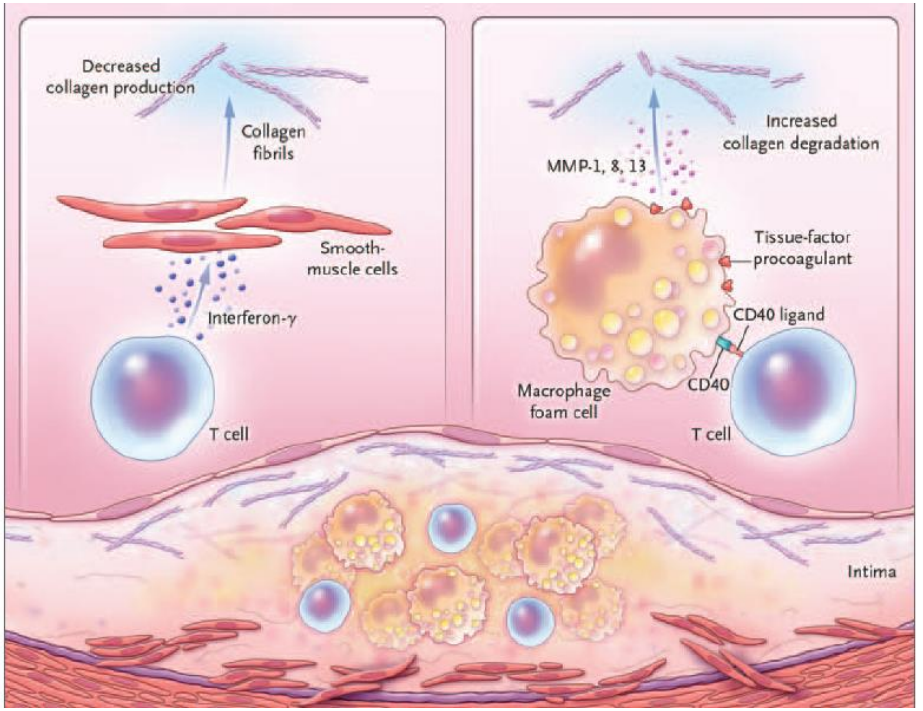
Pathogenesis of Atherosclerosis

Atherosclerosis is a DIFFUSE DISEASE driven by inflammation, atherogenic lipoproteins and in the acute phase platelet aggregation.



Libby, P. Mechanisms of Acute Coronary Syndromes and Their Implications for Therapy. N Engl J Med 2013; 368:2004-2013


What is
Lifestyle?
Fruits and vegetables
Vitamin D
Mindfulness
Calcium
Chinese medicines
Take a nap
Low sodium
Protein
Mediterranean diet
Red wine
Resveratrol
Low inflammation diet
Exercise
Chocolate
Organic food
Ayurvedic medicines
Nicotinamide riboside
Strength training
Drink warm water
Melatonin
No sugar
Aerobic exercise
Sleep
Vitamins
Detox
Low carb diet
Don’t skip breakfast
Green tea
10,000 steps
Never go hungry diet
Omega-3
Stress reduction
Branched Chain Amino acids
Coenzyme Q
Electrolytes
Fish
Atkins diet
Metformin
No Smoking
Happiness
Juice fasting
Regular health check up
Nuts
Meditation
Whole grain
Anti-oxidant
Vegan diet
Creatine
Intermittent fasting
Fiber
Probiotic
Drink milk
Fasting mimicking diet
Moderate coffee
Drink water
Olive oil
Low Cholesterol
Yoga
Watch your diet
5:2 Diet
Low fat diet
Breathing Exercise
Caloric restriction
Moderate alcohol
Nicotinamide
Stretching
Low dose aspirin
Short chain fatty acids

Lifestyle is

*what, **WHEN*** and *how much*

we **Eat**, **Sleep**, and **Move**

on a daily basis.

Effect of Lifestyle Interventions

Intervention	*SBP (mm Hg)*	*DBP (mm Hg)*	Goal
Diet and weight control	-6.0	-4.8	• BMI < 25 kg/m^2; WC ≤ 102/88 cm (Caucasian men/women), ≤ 90/80 cm (Asian men/women)
Reduced salt/sodium intake	-5.4	-2.8	• < 2000 mg of sodium[a]
Reduced alcohol intake (heavy drinkers)	-3.4	-3.4	• ≤ 2 drinks/day
DASH diet[b]	-11.4	-5.5	-
Physical activity	-3.1	-1.8	• 30-40 minutes 4-7 days/week
Smoking cessation	unknown	unknown	• Smoke free environment
Relaxation therapies	-3.7	-3.5	-
Multiple interventions	-5.5	-4.5	-

Heart Disease is Preventable

Overview of Cardiac Rehabilitation Programs

Nutrition Education

Physician-Supervised Exercise

Intensive Cardiac Rehabilitation

Stress Management

Group Support

72 sessions over 18 weeks

Traditional Cardiac Rehabilitation

Mainly exercise with some education

36 sessions over 12 weeks

Cardiac Rehab for Secondary Prevention Indications:

1. Stable angina pectoris
2. Prior coronary artery bypass surgery
3. Prior angioplasty or stent
4. Prior heart valve repair or replacement
5. Prior heart transplant or heart-lung transplant or LVAD
6. Acute myocardial infarction within the last 12 months

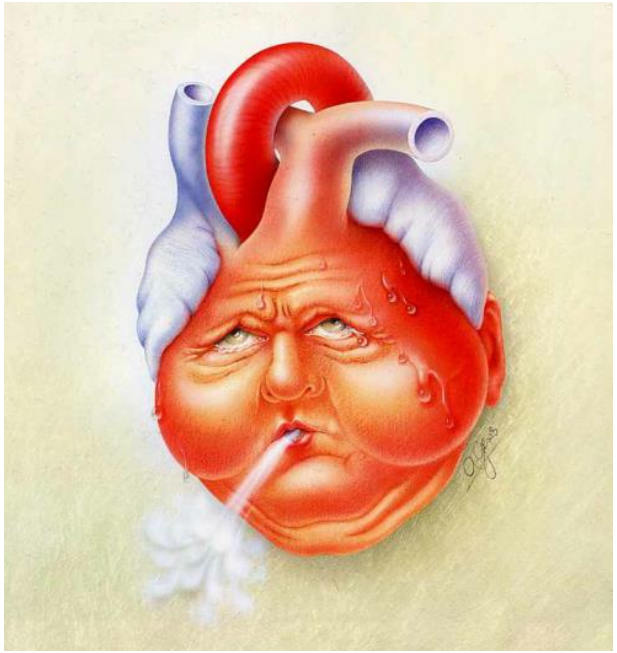
TCR ONLY:

7. Systolic congestive heart failure*
8. Peripheral Arterial Disease

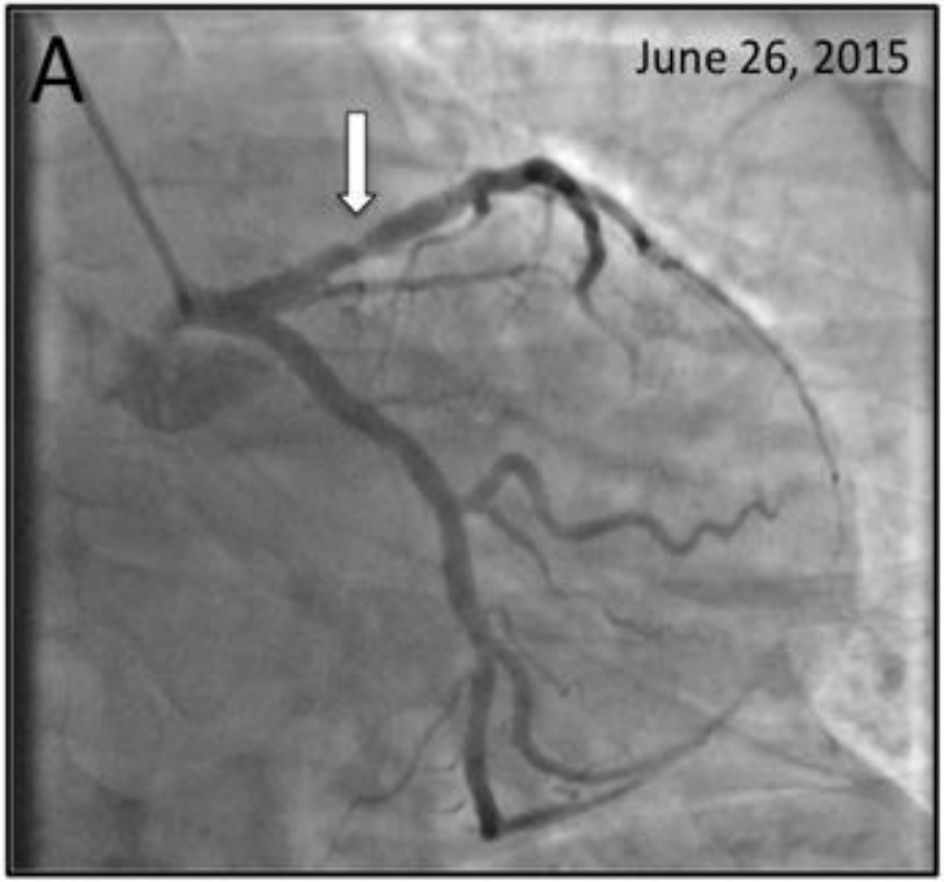
*Provided that the patient has New York Heart Association class II to IV symptoms, left ventricular ejection fraction ≤35%, has been on optimal medical therapy for at least 6 weeks, and has not had recent (<6 weeks) or planned (<6 months) hospitalizations or procedures

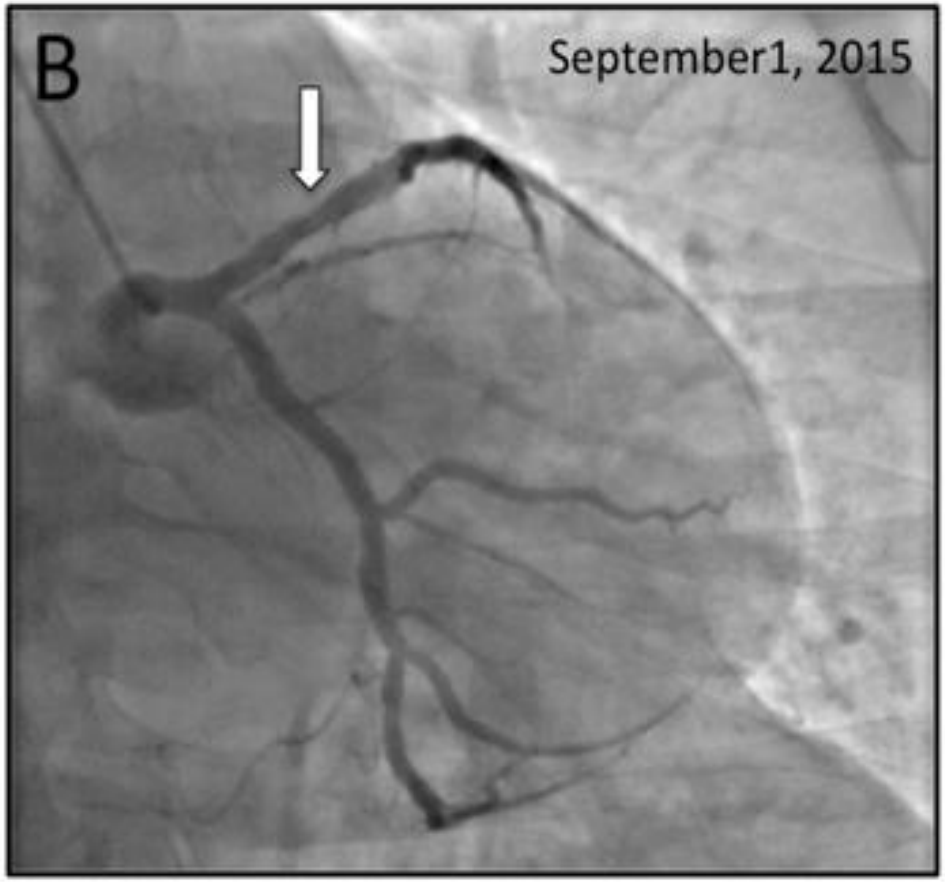
Currently Covered Indications for Cardiac Rehabilitation

- Heart attack
- Coronary artery bypass grafting (CABG)
- Chronic stable angina
- Cardiac transplantation
- Heart valve repair or replacement
- Stable, chronic heart failure (EF<35%)
- **Peripheral Arterial Disease**

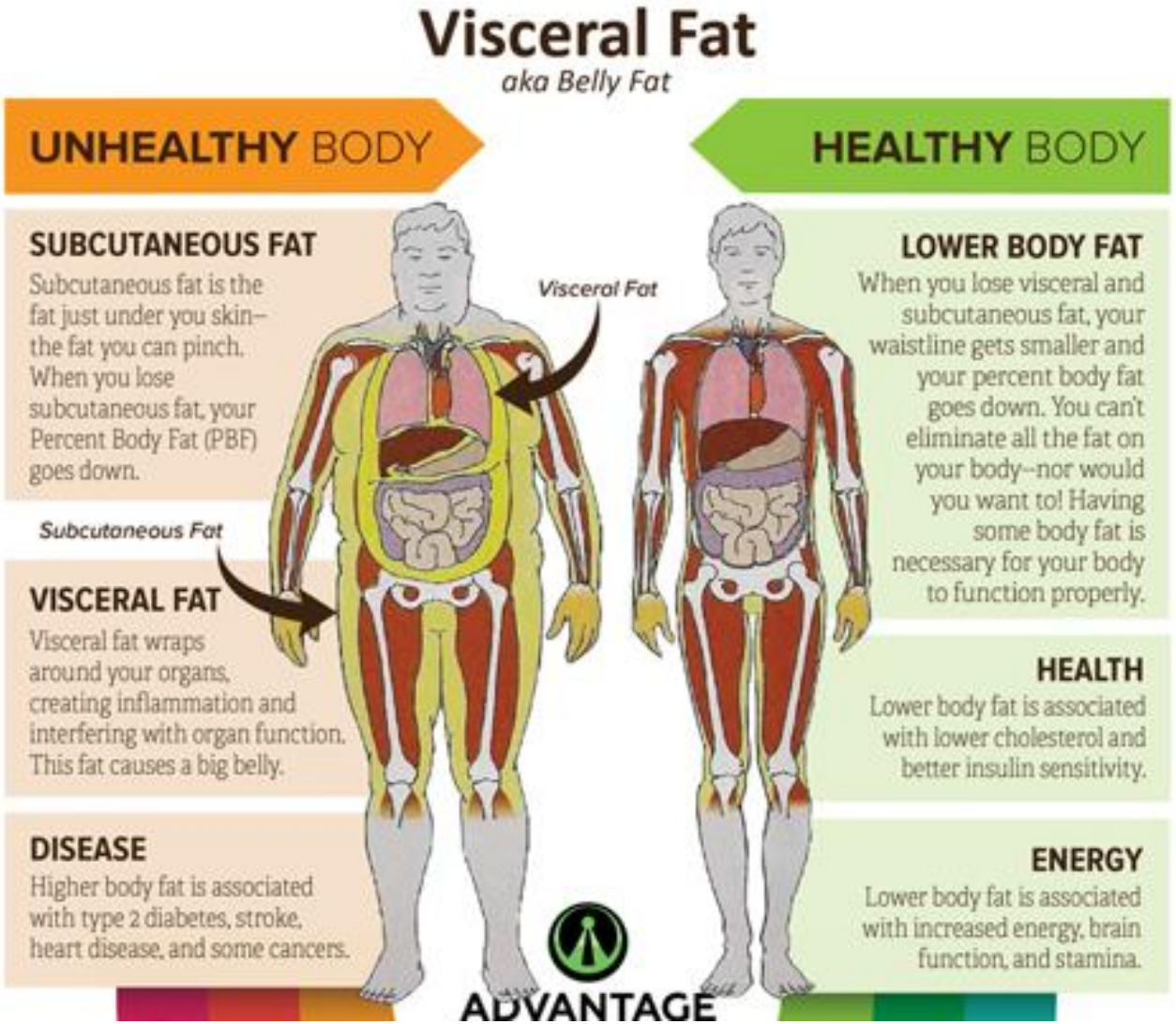


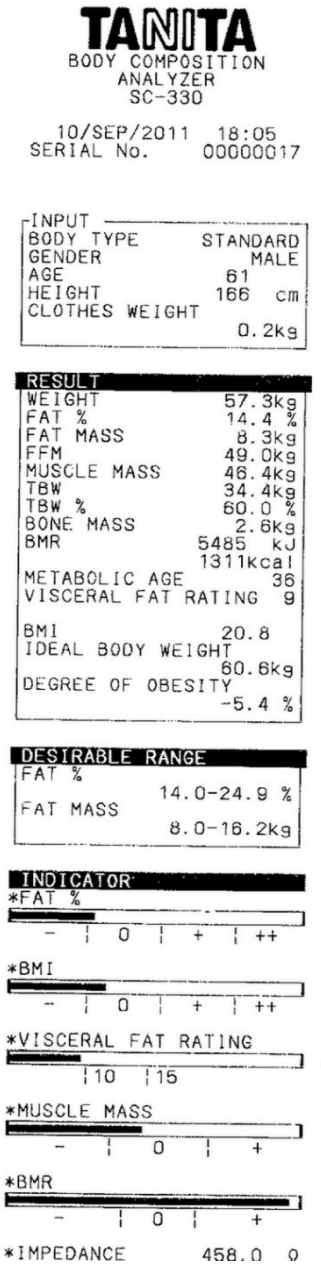
Case study of a patient enrolled in Intensive Cardiac Rehabilitation Program





New Approaches to Cardiac Rehab





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Sports Med (2018) 48:269–288
https://doi.org/10.1007/s40279-017-0807-y

REVIEW ARTICLE

Effect of High-Intensity Interval Training on Total, Abdominal and Visceral Fat Mass: A Meta-Analysis

Florie Maillard[1] · Bruno Pereira[2] · Nathalie Boisseau[1,3]

Conclusion HIIT is a time-efficient strategy to decrease fat-mass deposits, including those of abdominal and visceral fat mass. There was some evidence of the greater effectiveness of HIIT running versus cycling, but owing to the wide variety of protocols used and the lack of full details about cycling training, further comparisons need to be made. Large, multicenter, prospective studies are required to establish the best HIIT protocols for reducing fat mass according to subject characteristics.

https://www.facebook.com/groups/327289611170916/

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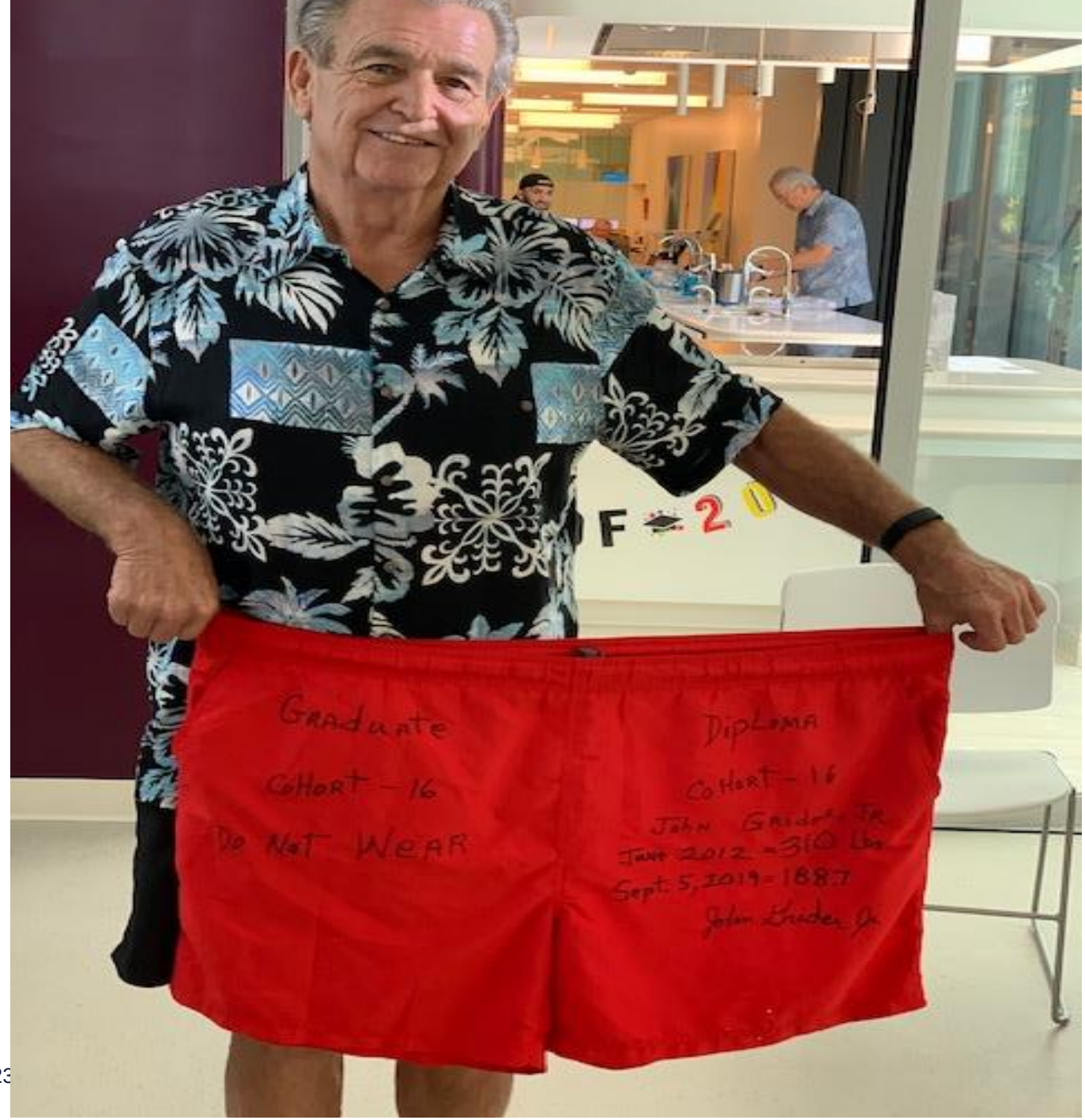
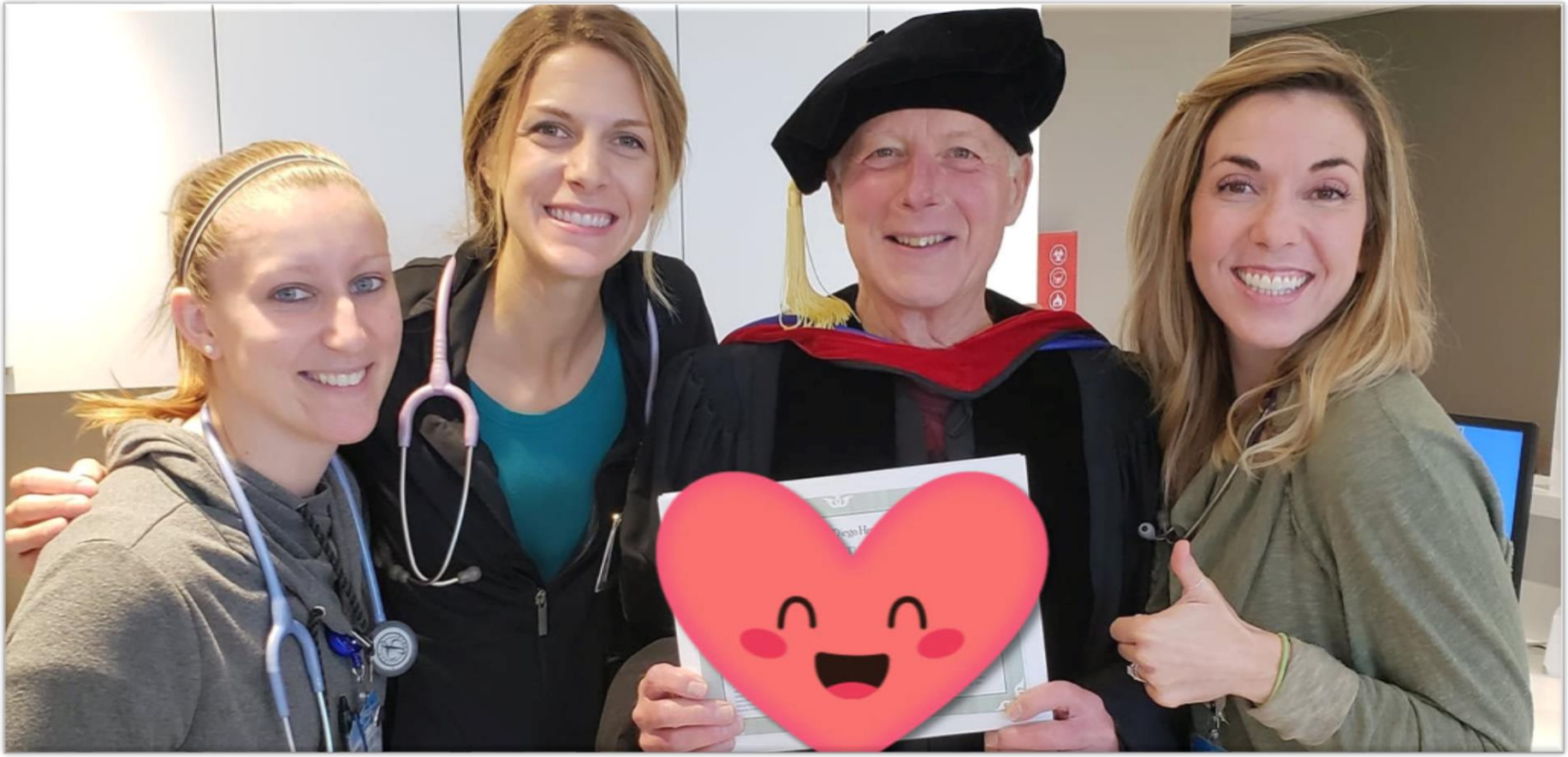

Graduate
Cohort - 16
Do Not Wear
Diploma
Cohort - 16
John Gri
June 2012 - 310 Lbs
Sept. 5, 2019 - 188.7
John Linder Jr



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Requirements to "Graduate" from Cardiac Rehabilitation Program

- Be empowered with accurate information on ways to improve cardiac health
- Be active and engage in routine physical activity
- Follow a plant based diet (e.g. Mediterranean diet)
- Engage in stress management activities
- Understanding medications and reasons why they are taken

Patient Outcomes with Intensive Cardiac Rehabilitation

	Baseline	Post
Hemoglobin A1c: Goal: < 5 – 7	5.1	4.9
CRP: Goal: < 0.5	0.3	0.3
Total Cholesterol:	144	126
LDL: Goal: < 70	55	47
HDL: Goal: > 40	70	73
Triglycerides: Goal: < 150	96	88
Cholesterol/HDL Ratio:	2.06	2.07
Visceral Fat: Goal: < 10	10	8
Body Fat:	39.3	37.3
Waist Circumference: Goal: <40 Men <35 Women	39	32
METS: Goal: 2 MET increase from baseline	4.5	9
Weight:	155.6	142.8
Muscle Mass %:	57.6	59.5

Analysis of 219 Patients who Completed our Program

- Compared with traditional cardiac rehab (TCR), the Intensive Cardiac rehab (ICR) program resulted in more significant improvements of metabolic biomarkers (weight, BMI, body fat, and waist circumference), hemodynamic parameters (DBP and HR), and lipid biomarkers (TC, LDL-C, and Non-HDL-C)

- A trend towards lower incidence of adverse clinical outcomes in the long-term follow-up in the ICR group vs. TCR group with low readmission rates for heart failure was observed

- Our results emphasize the importance of a comprehensive lifestyle approach going beyond exercise for improving biomarkers and clinical outcomes

Keeping Patients Adherent to Life Style Changes after Graduation from the Program

- Organized activities such as trips to local supermarket
- Lectures by physicians to patients
- Cooking classes
- Using social media to keep patients informed about events and the latest research

Alexandra Salcedo

September 18 at 3:12 PM

Fruit of the week: Dragon Fruit Pitaya

You have probably seen this fruit in salads and desserts during your Ornish days. Dragon fruit, also known as Pitaya or Pitahaya, is a good source of B vitamins, iron, and magnesium and are high in Omega 3's. Omega 3's are polyunsaturated fats that help lower the risk of having heart disease. Does this mean eating dragon fruit daily will prevent you from having heart disease? No, but it will help increase your overall consumption of Omega 3's that will, in combination with other food in your diet, help provide help protect heart. Try dragon fruit frozen to cool off on hot days rather than eating ice cream as a healthy alternative.

Please share a picture if you buy pitaya!

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Conclusions

- Heart disease is preventable
- Lifestyle approaches incorporating a plant-based diet with exercise an stress management can decrease risk of heart disease


To The Staff At The
UCSD Ornish Lifestyle Prog
We Thank Yo
From Our He