



## **Hands-Only CPR / AED**

**Wayne W Ruppert, CVT, CCCC, NREMT-P**  
**Interventional Cardiovascular Technologist**  
**Cardiac Accreditations / Emergency Manager**  
**Bayfront Health Seven Rivers**



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# ***CARDIAC ARREST***

- ***NO HEARTBEAT***
- ***NO BREATHING*** or “agonal gasping” only
- ***NO BLOOD*** is being circulated

# ***CARDIAC ARREST***

- ***BRAIN CELLS begin to DIE in 4-6 MINUTES***



***CPR must be started  
within 4 - 6 minutes !***

# ***CARDIAC ARREST***

- ***The patient's chances of survival decrease by 10% for every minute that passes without DEFIBRILLATION (the electrical shock from an AED).***

# Average Response Times for CARDIAC ARREST CARE:

- EMS response: **8 – 10 MINUTES**

# Average Response Times for CARDIAC ARREST CARE:

- EMS response: **8 – 10 MINUTES**
- *That's TOO LONG !* To save the patient's life, and for the patient to have a good outcome, **CPR MUST BE STARTED in LESS THAN 4 – 6 minutes !!**

***Bystander***

***CPR***

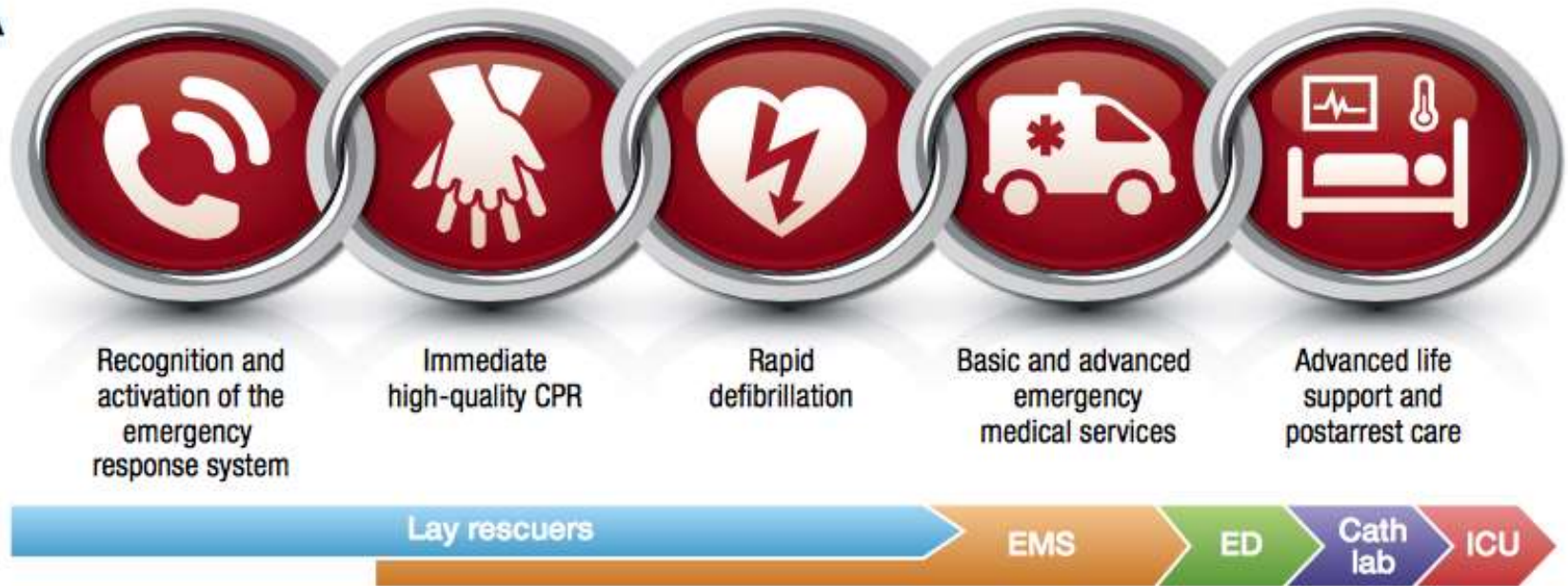
***SAVES***

***LIVES.***



# AHA'S "CHAIN OF SURVIVAL"

OHCA



***YOU*** are the ***FIRST THREE LINKS*** in the ***CHAIN-OF-SURVIVAL***.

- Next Slides: ***How to PREVENT Cardiac Arrest***, followed by ***Reducing Your Risks for Heart Attack***. To see this content, just forward to next slide.
- [Click here to skip content and go directly to “HANDS-ONLY CPR & AED.”](#)



***“THE BEST treatment for  
CARDIAC ARREST is to  
PREVENT IT!!”***



Heart disease is the leading cause of death in the United States.

**600,000 people** die of heart disease in the United States every year

***About 47% of sudden cardiac deaths - 282,000 - occur outside a hospital.***



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**600,000 people** die of heart disease in the United States every year

***About 47% of sudden cardiac deaths - 282,000 - occur outside a hospital.***

***Many of these people had WARNING SIGNS – but FAILED TO ACT on them!***

**Question: HOW CAN WE  
PREVENT CARDIAC ARREST ??**

**Question: HOW CAN WE  
PREVENT CARDIAC ARREST ??**

**Answer: KNOW the SYMPTOMS  
of HEART ATTACK . . . And ACT on  
them BEFORE cardiac arrest  
occurs!**

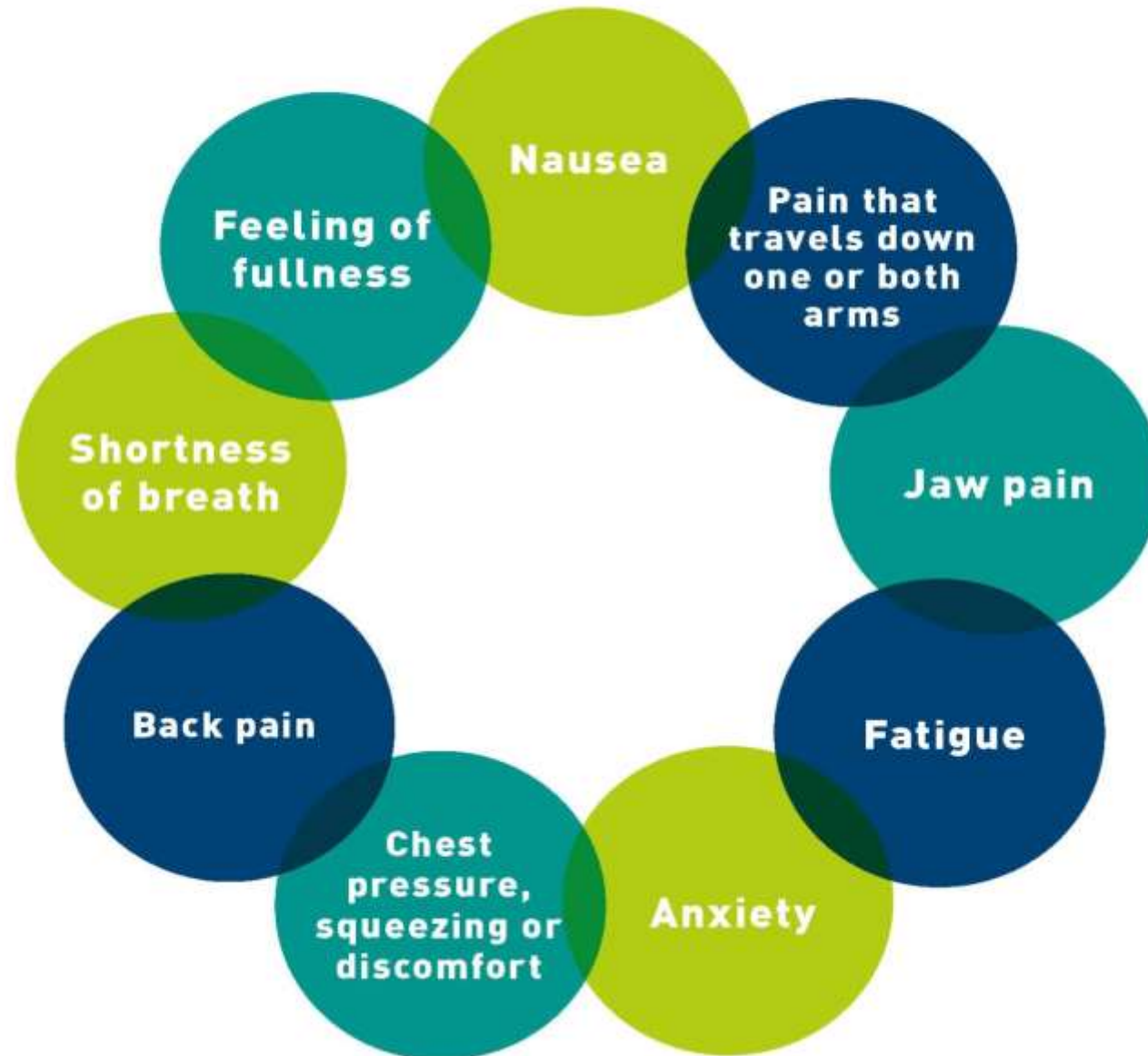


***WHAT ARE SOME  
“EARLY HEART ATTACK”  
WARNING SIGNS ? ?***



## SO WHAT ARE THE EARLY SYMPTOMS?

Remember, people may or may not experience any or all of these symptoms



# ***CLASSIC SYMPTOMS OF HEART ATTACK***

- ✓ **CHEST PAIN - DESCRIBED AS . . .**
  - "HEAVINESS, PRESSURE, DULL PAIN, TIGHTNESS"
  - CENTERED IN CHEST, SUBSTERNAL
  - MAY RADIATE TO SHOULDERS, JAW, NECK, LEFT or RIGHT ARM
  - NOT EFFECTED by:
    - MOVEMENT
    - POSITION
    - DEEP INSPIRATION
  
- ✓ **SHORTNESS OF BREATH**
  - MAY or MAY NOT BE PRESENT
  
- ✓ **NAUSEA / VOMITING**
  - MAY or MAY NOT BE PRESENT

***CALL 911 !***

***NOT EVERYONE having a  
HEART ATTACK gets CHEST  
PAIN. Especially these people:***

***-FEMALES***

***-DIABETICS***

## **OTHER SYMPTOMS OF HEART ATTACK:**

- SHORTNESS OF BREATH**
- NECK, SHOULDER, ARM, JAW PAIN**
- INDIGESTION**
- COLD SWEATS**
- NAUSEA / VOMITING**
- ABDOMINAL PAIN (above belly button)**
- OVERWHELMING FATIGUE / WEAKNESS**
- DIZZINESS**
- HEART PALPITATIONS**

**A Study of 575 FEMALE PATIENTS who had HEART ATTACKS:  
Symptoms ONE MONTH before the Heart Attack  
Jean McSweeney, et. Al, 2003**

**WOMEN'S MAJOR SYMPTOMS  
PRIOR TO THEIR HEART ATTACK:**

- **UNUSUAL FATIGUE** 71 %
- **SLEEP DISTURBANCE** 48 %
- **SOB** 42 %
- **INDIGESTION** 39 %
- **ANXIETY** 36 %

**APPROXIMATELY 78 % OF WOMEN REPORTED  
EXPERIENCING AT LEAST ONE OF THESE  
SYMPTOMS FOR MORE THAN ONE MONTH  
EITHER DAILY OR SEVERAL TIMES PER WEEK  
PRIOR TO THEIR MI.**



# WOMEN'S MAJOR SYMPTOMS DURING THEIR HEART ATTACK:

SHORTNESS OF BREATH	58 %
WEAKNESS	55 %
UNUSUAL FATIGUE	43 %
COLD SWEAT	39 %
DIZZINESS	39 %



***43 % HAD NO CHEST PAIN AT  
ANY TIME DURING THEIR MI!***

*Circulation*, 2003:108;2619-2623

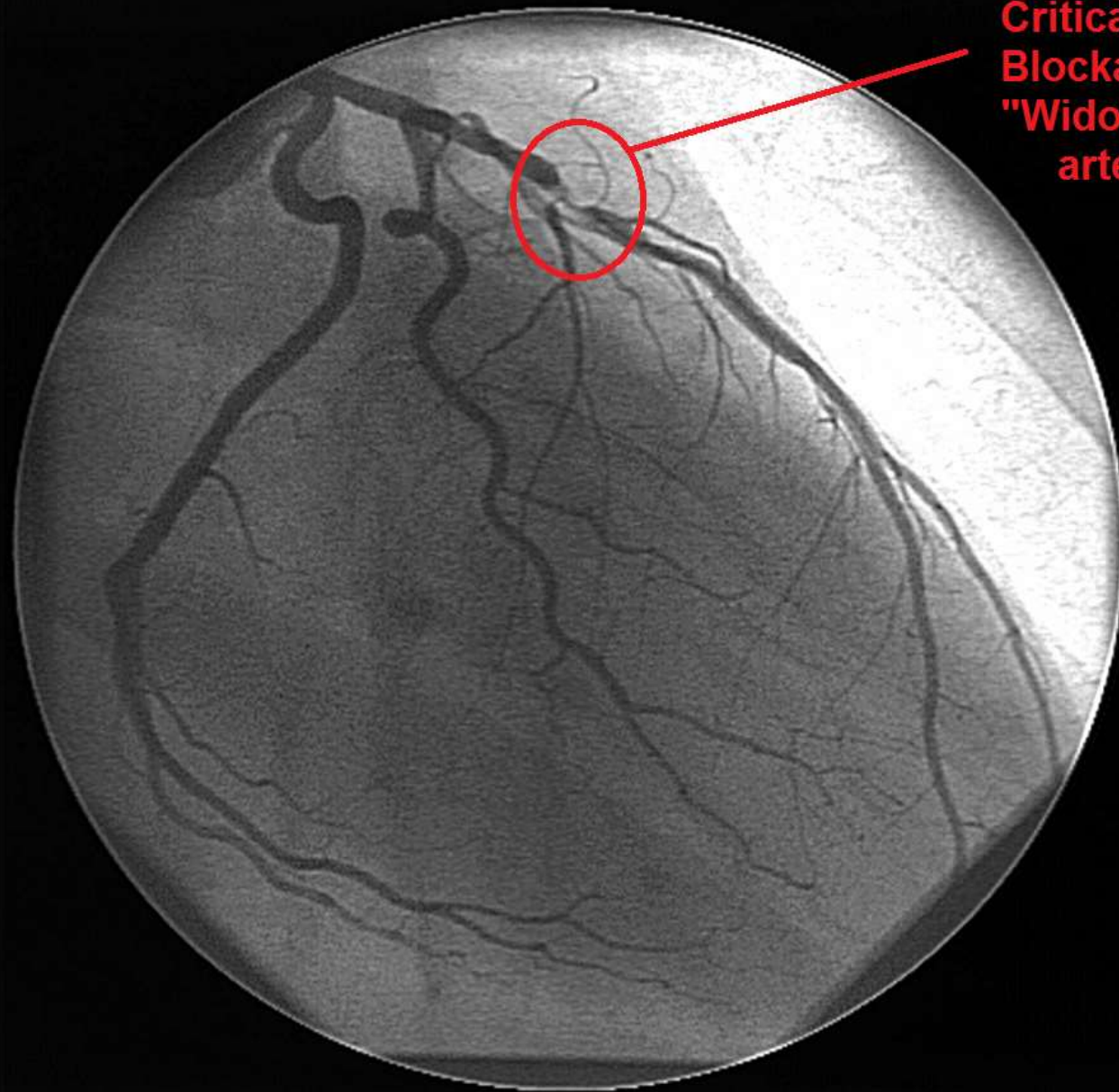
**57 % of WOMEN DID HAVE CHEST DISCOMFORT**

**43 y/o FEMALE WITH *INTERMITTENT*  
“UPPER ABDOMINAL PRESSURE.”**

**Went to see personal physician, who ordered  
STRESS TESTING.**

**STRESS TESTING indicated “possible coronary  
artery blockages.”**

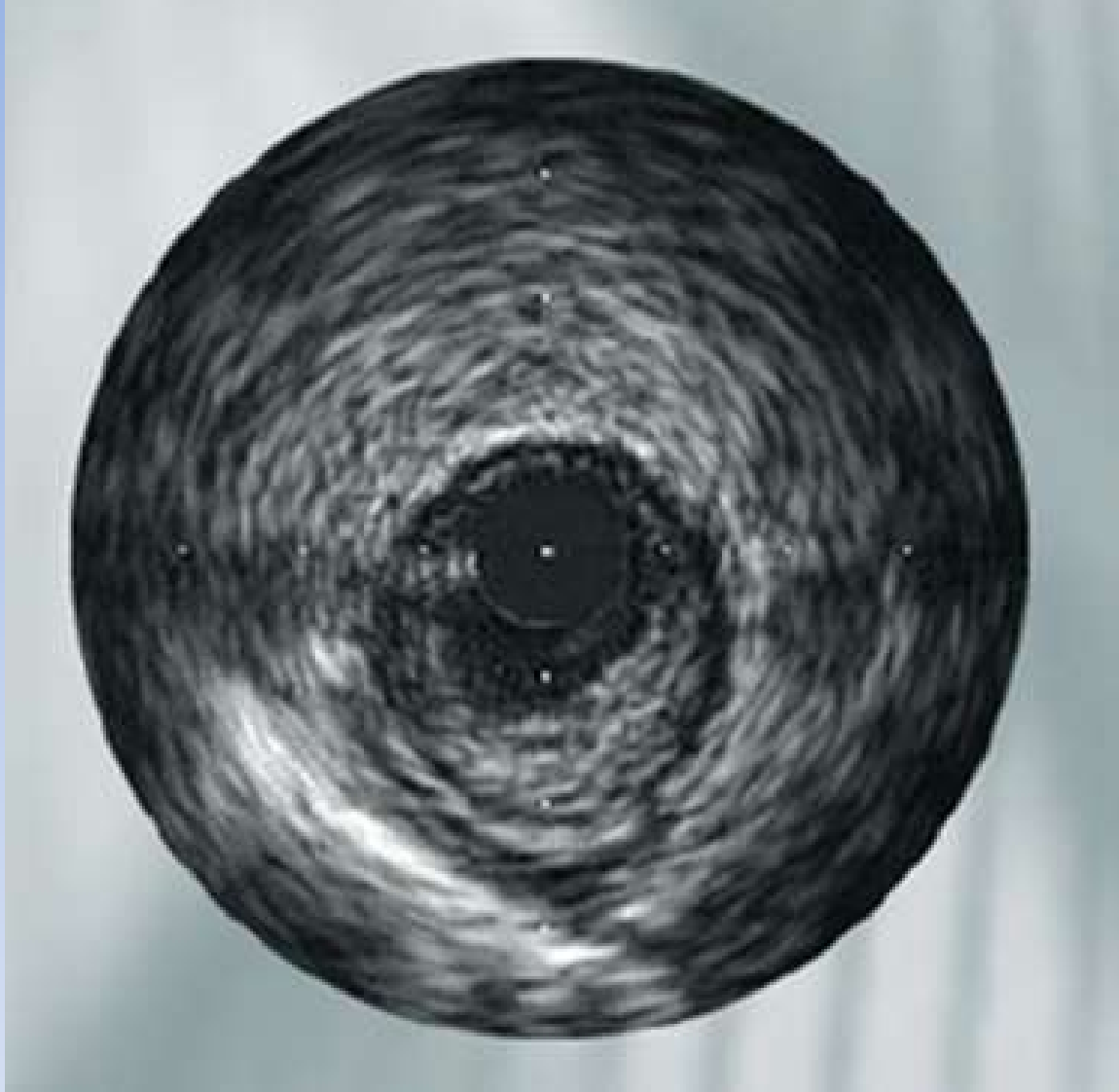
**Cardiac Cath revealed . . . .**



**Critical 99%  
Blockage in  
"Widowmaker"  
artery.**

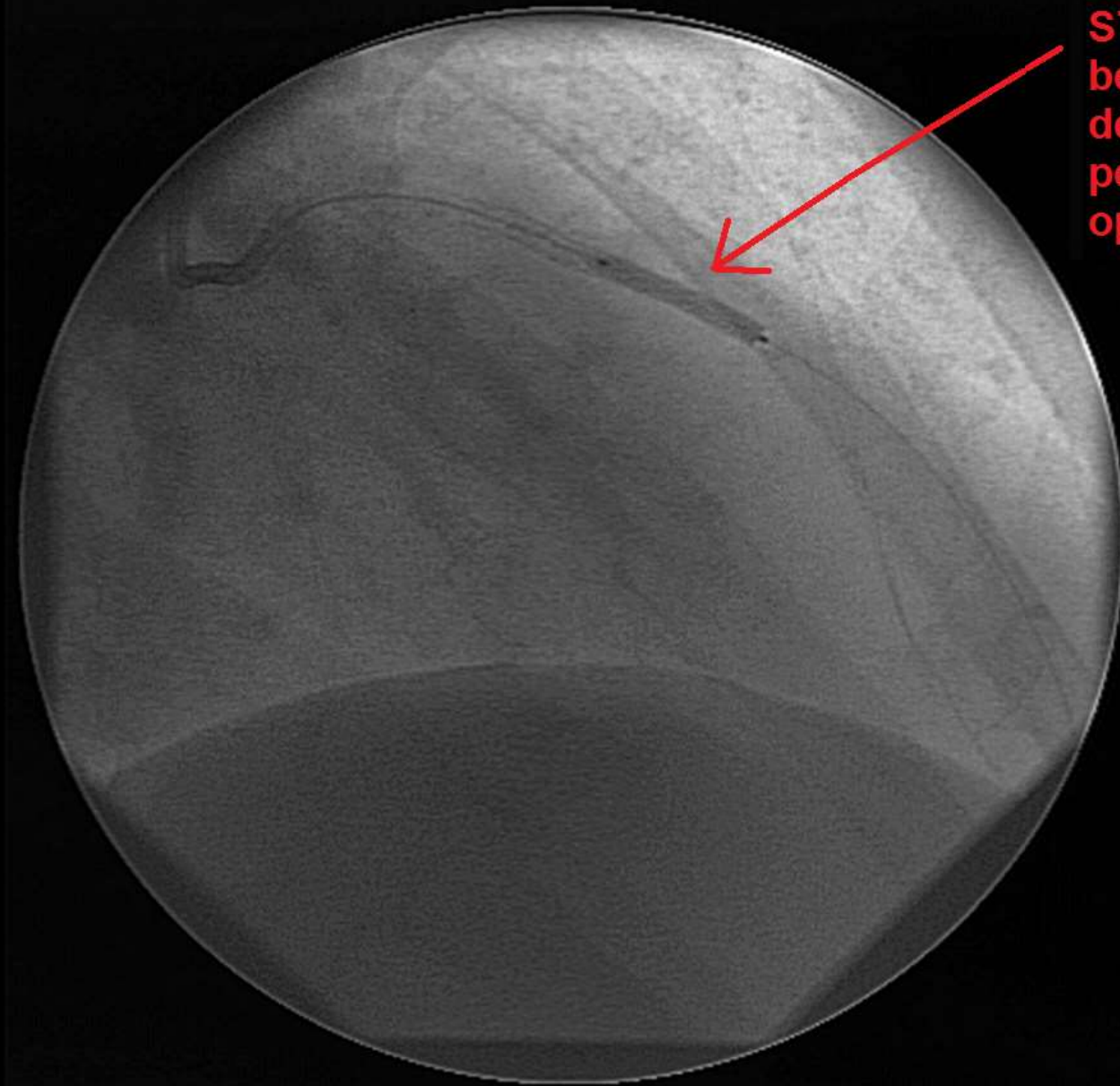
ci





**Intravascular  
Ultrasound  
“cut-away”  
view of coronary  
artery.**

**43 y/o FEMALE WITH INTERMITTENT UPPER  
ABDOMINAL PRESSURE.**



**STENT**  
being  
deployed to  
permanently  
open artery.

00

ci

**STENT has been  
successfully deployed.  
Deadly Heart Attack  
AVERTED !!**



**WHEN SOMEONE HAS SYMPTOMS OF  
HEART ATTACK:**

**WHEN SOMEONE HAS SYMPTOMS OF  
HEART ATTACK:**

**1. BEST COURSE OF ACTION IS CALLING**

***911***

**-WITHIN 1<sup>st</sup> HOUR,  
HIGHEST RISK of DEATH**

**-FIRST 2 HOURS, 85% of  
HEART DAMAGE OCCURS**



**NATIONAL GOAL OF EMERGENCY HEART  
ATTACK CARE:**

***OPEN BLOCKED VESSEL WITHIN 90 MINUTES  
OR LESS of FIRST MEDICAL CONTACT.***

# WHEN SOMEONE HAS SYMPTOMS OF HEART ATTACK:

1. BEST COURSE OF ACTION IS CALLING 911
2. TAKE 324 mg ASPIRIN  
(Best to CHEW it or chew FOUR 81mg Children's Aspirin)

# WHEN SOMEONE HAS SYMPTOMS OF HEART ATTACK:

1. BEST COURSE OF ACTION IS CALLING 911
2. TAKE 324 mg ASPIRIN  
(unless ALLERGIC to Aspirin !)
3. **Remain calm**



# WHEN SOMEONE HAS SYMPTOMS OF HEART ATTACK:

1. BEST COURSE OF ACTION IS CALLING 911
2. TAKE 324 mg ASPIRIN  
(unless ALLERGIC to Aspirin !)
3. Remain calm
4. **Get AED (Automatic External Defibrillator), if available. IF PATIENT BECOMES unresponsive and stops breathing or exhibits “agonal breathing,” TURN AED ON and FOLLOW ITS INSTRUCTIONS.**

# WHEN SOMEONE HAS SYMPTOMS OF HEART ATTACK:

1. BEST COURSE OF ACTION IS CALLING 911
2. TAKE 324 mg ASPIRIN  
(unless ALLERGIC to Aspirin !)
3. Remain calm
4. Get AED (Automatic External Defibrillator), if available.
5. EMS transport to nearest Chest Pain Center with PCI (balloon / stent) capabilities.



**Providing emergency cardiac catheterization and PCI (balloon and stent procedure), 24 / 7 / 365 to citizens in the vicinity of Crystal River, Florida.**

**Question: HOW CAN WE  
PREVENT HEART ATTACK? ?**

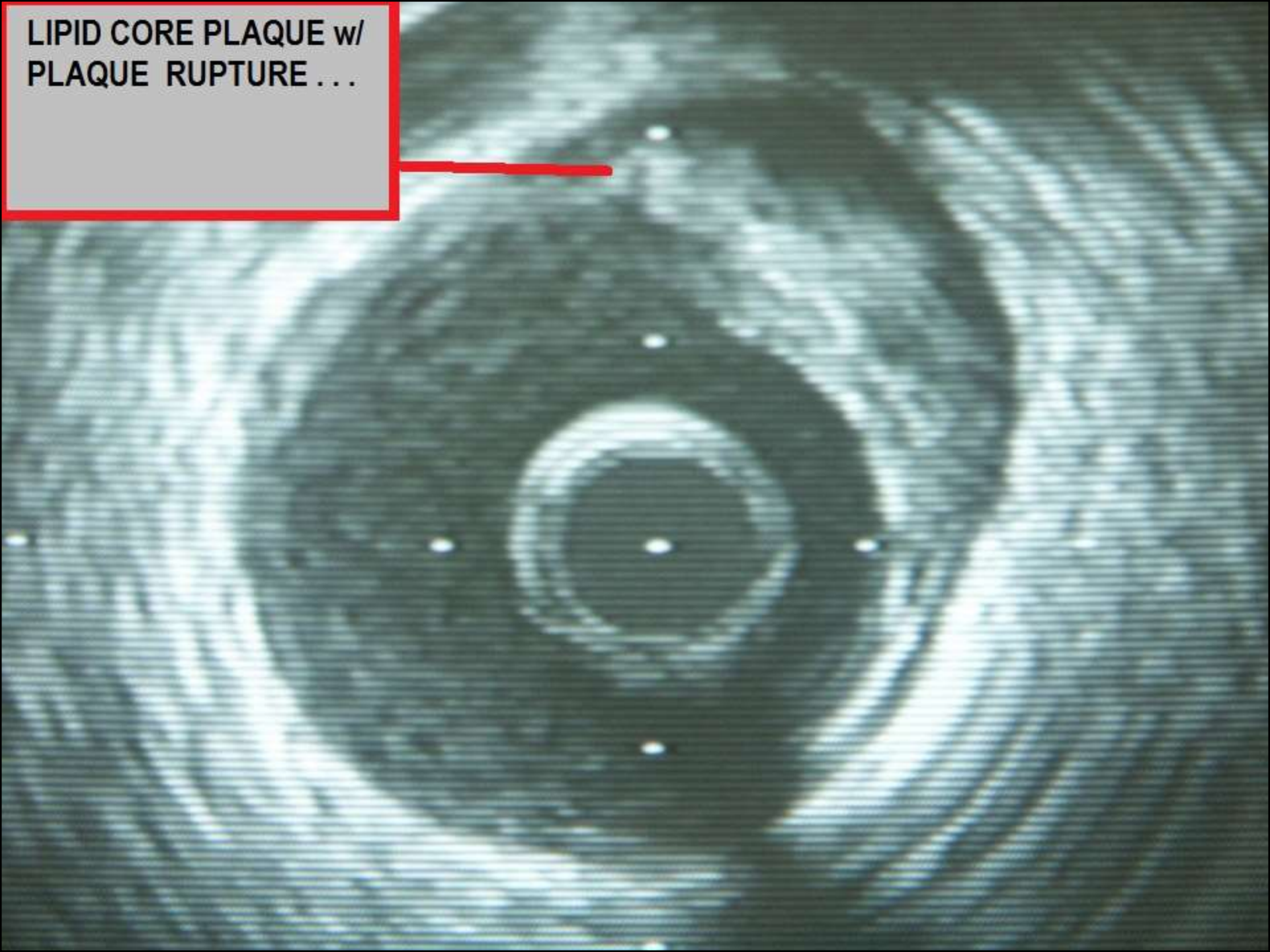
**Question: HOW CAN WE  
PREVENT HEART ATTACK? ?**

**Answer: Besides eating healthy,  
not smoking, getting regular  
exercise and keeping cholesterol  
down, we can TAKE AN ASPIRIN  
DAILY !**

**BECAUSE . . . .**

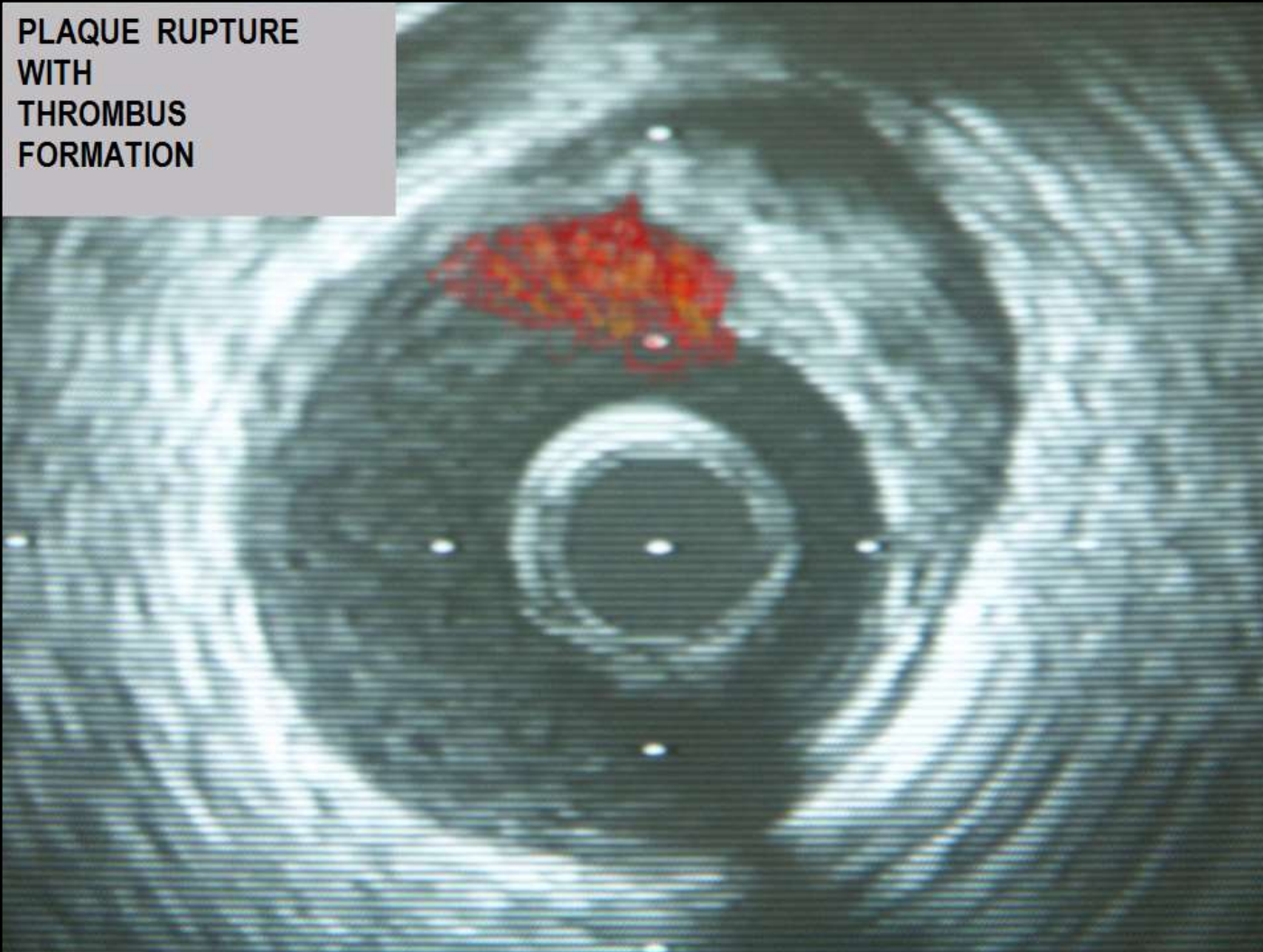
***HEART ATTACK IS ALMOST  
ALWAYS CAUSED BY A  
“ PLAQUE RUPTURE “  
FOLLOWED BY THE  
FORMATION OF A BLOOD  
CLOT . . .***

LIPID CORE PLAQUE w/  
PLAQUE RUPTURE ...





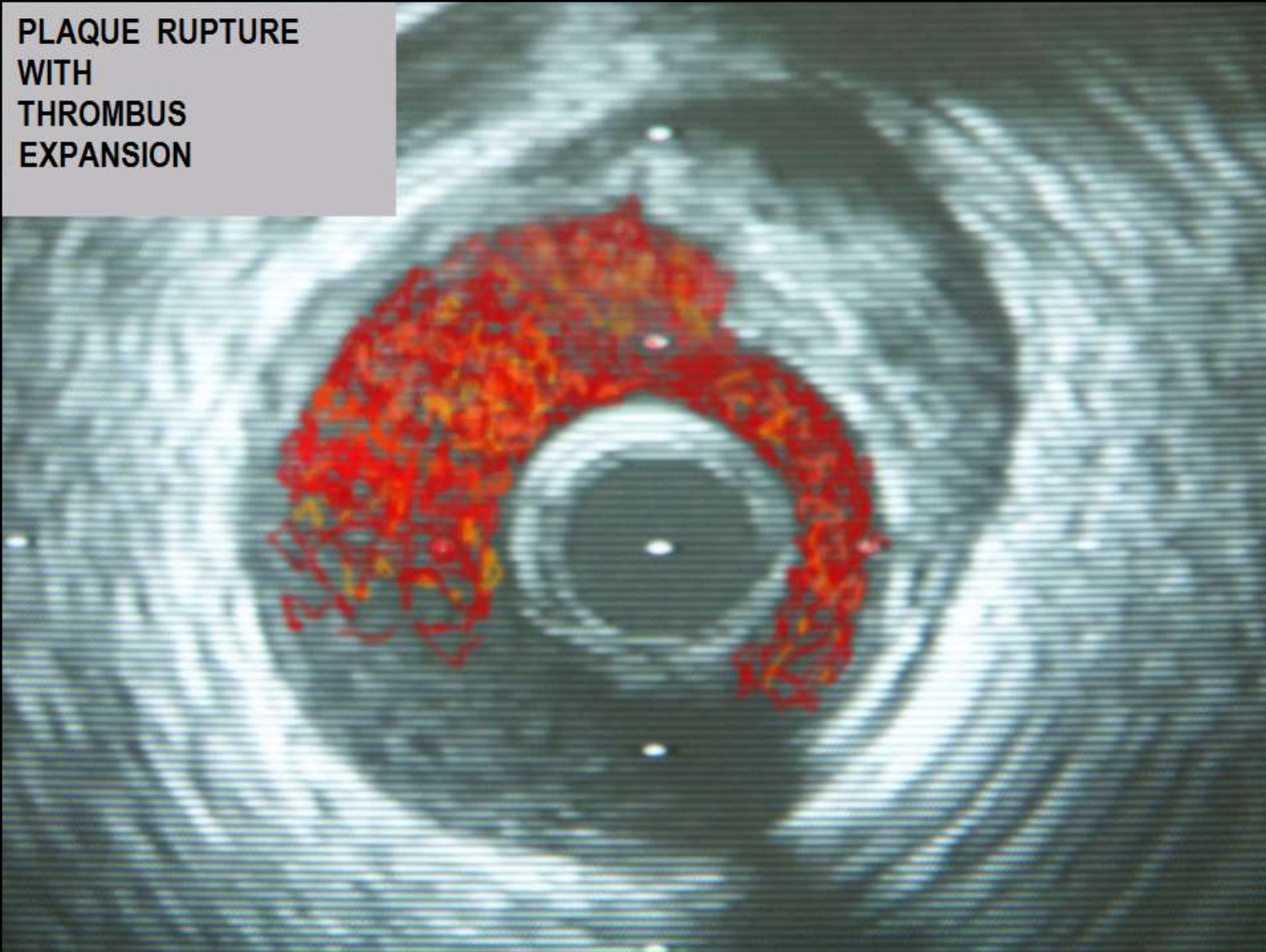
PLAQUE RUPTURE  
WITH  
THROMBUS  
FORMATION



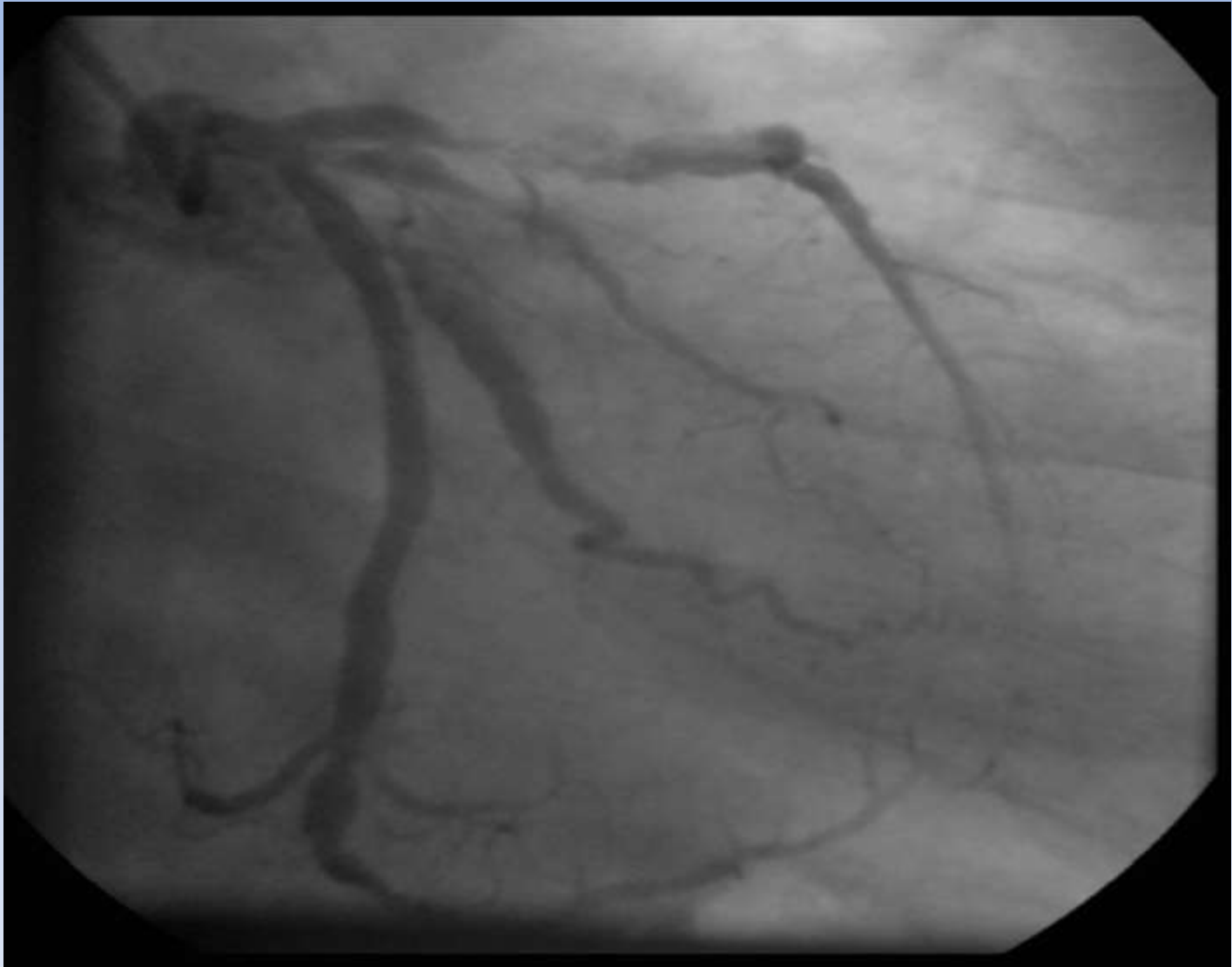
**THE CAUSE OF HEART ATTACK IN 90% OF  
CASES IS PLAQUE RUPTURE WITH THROMBUS  
FORMATION**

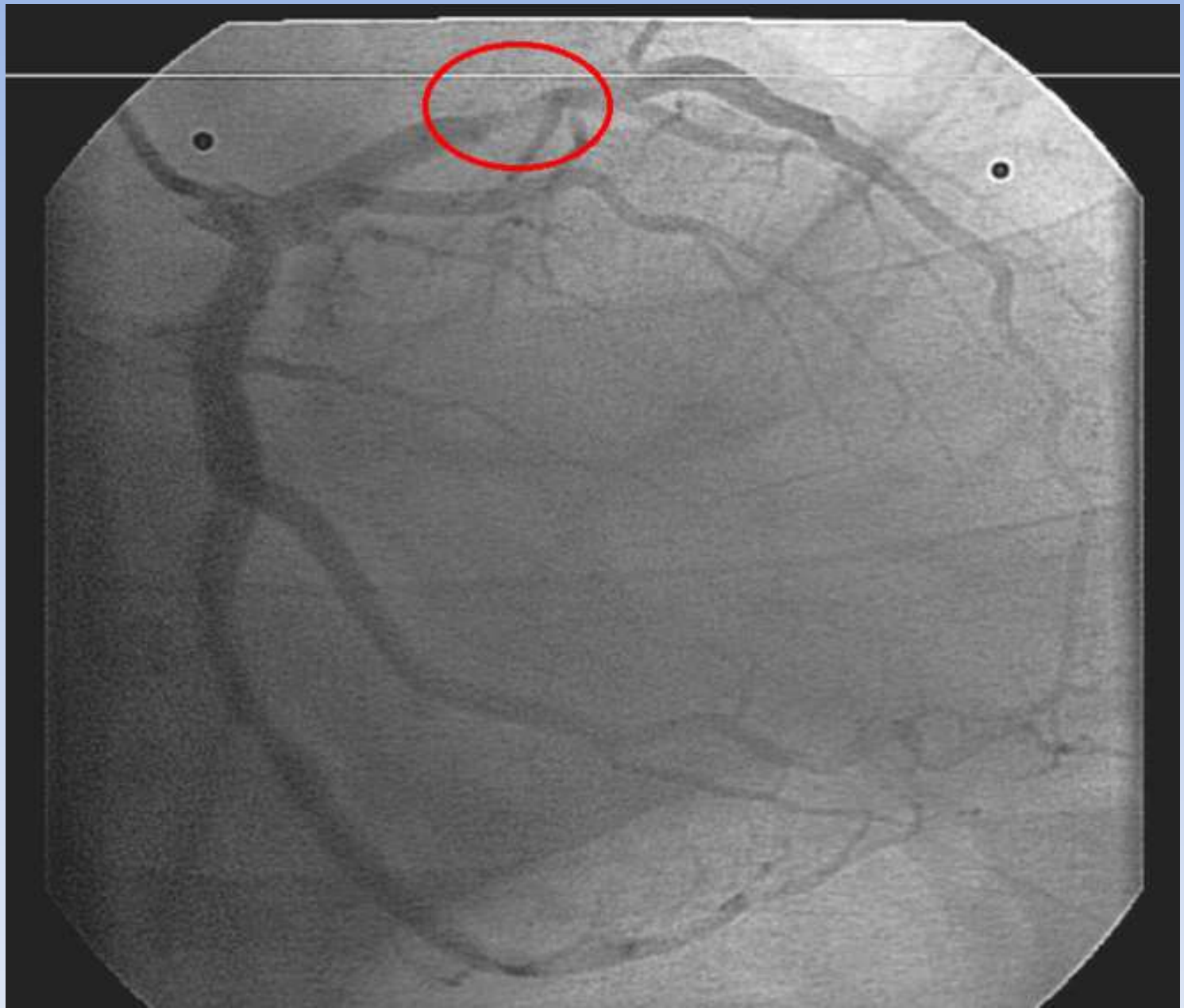


PLAQUE RUPTURE  
WITH  
THROMBUS  
EXPANSION



***AT THIS POINT, the patient may begin to  
Complain of CARDIAC SYMPTOMS . . .***





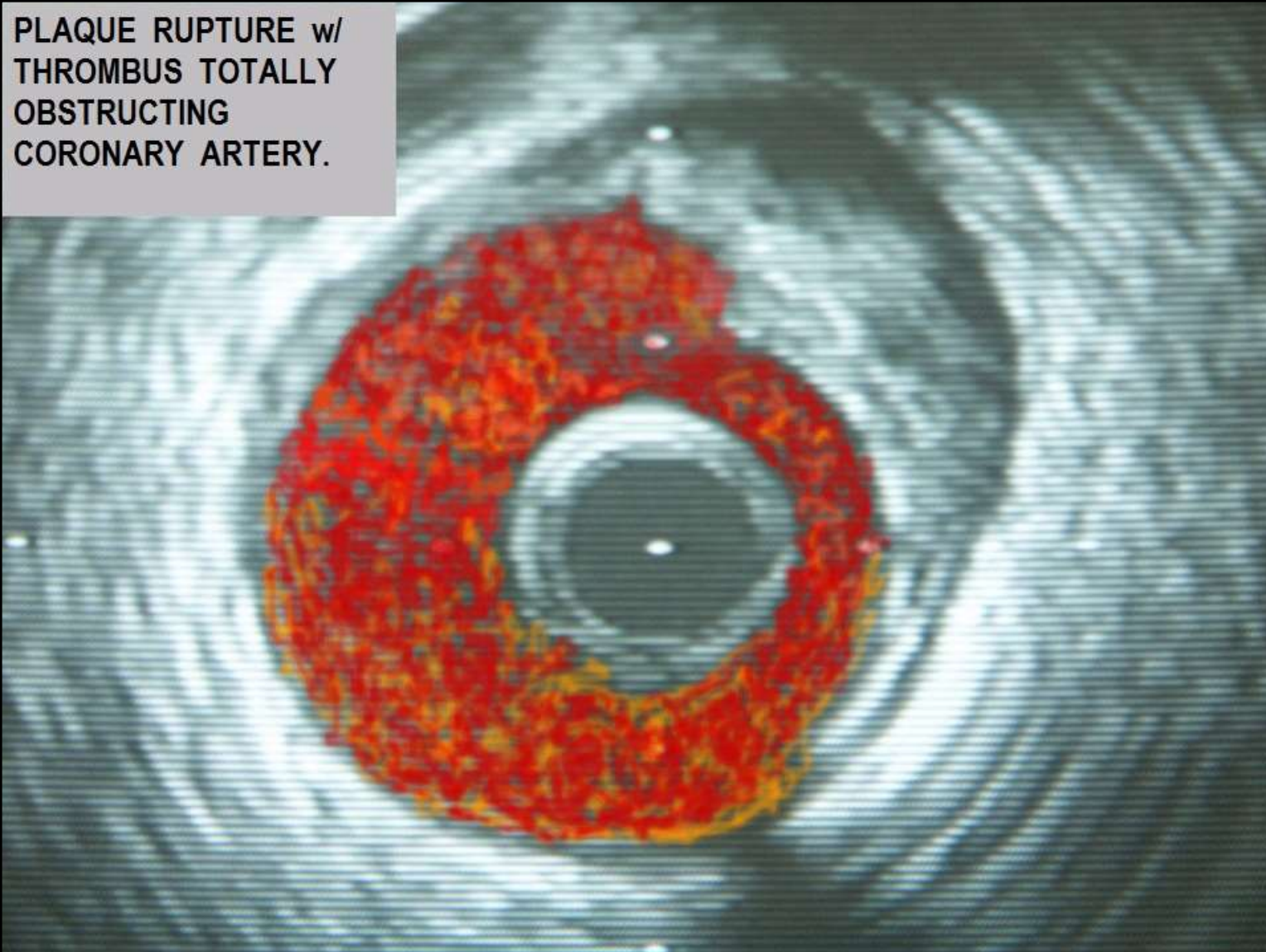
# **ASPIRIN**

***MAY HALT THE PROGRESSION OF  
THE THROMBUS (BLOOD CLOT)  
FORMATION !!!***

***4 CHEWABLE 81 mg TABLETS  
WORK BEST.***



PLAQUE RUPTURE w/  
THROMBUS TOTALLY  
OBSTRUCTING  
CORONARY ARTERY.



**AT THIS POINT,  
PATIENT COMPLAINS OF CONTINUOUS SYMPTOMS . . .**



**Blood Clot  
Is  
PARTIALLY  
BLOCKING  
the artery.  
The patient  
now has  
CHEST  
PAIN.**



**Blood Clot  
Is now  
TOTALLY  
BLOCKING  
the artery.  
The patient  
is now  
having a  
HEART  
ATTACK.**

# **RISK FACTORS:**











***IN ADDITION TO “TAKING A DAILY ASPIRIN,” WE CAN ALSO PREVENT HEART ATTACKS BY TAKING CONTROL OF OUR RISK FACTORS . . . . .***



# **RISK FACTORS**

for the development of

## **CORONARY ARTERY DISEASE:**

-  **HEREDITY**
-  **↑ LDL and ↓ HDL CHOLESTEROL PROFILES**
-  **SMOKING**
-  **DIABETES MELLITUS**
-  **OBESITY**
-  **PHYSICAL INACTIVITY**
-  **HYPERTENSION**
-  **AGE - OVER 65**
-  **MALE**
-  **HIGH STRESS**

# RISK FACTORS

The RISK FACTORS we  
CAN control !!

for the development of

## CORONARY ARTERY DISEASE:



**HEREDITY**



**↑ LDL and ↓ HDL CHOLESTEROL PROFILES**



**SMOKING**



**DIABETES MELLITUS**



**OBESITY**



**PHYSICAL INACTIVITY**



**HYPERTENSION**



**AGE - OVER 65**



**MALE**



**HIGH STRESS**

## Dietary Causes of Heart Attack:

- Cholesterol – the “traditional dietary culprit.” However new evidence is suggesting IT’S NOT JUST CHOLESTEROL . . . .
- *Triglycerides* elevate due to intake of SWEETS and FRIED FOODS . Foods high in sugar and simple carbohydrates may very well be WORSE than Cholesterol . . . .

# WHAT IS CHOLESTEROL?

**Cholesterol** is a waxy substance produced and released into the bloodstream by cells in the liver.

# CHOLESTEROL VALUES:

**Total Cholesterol:** 240+ 200-239 <200

**HDL: High Density Lipoprotein (the “good cholesterol”)** <40 41-60 >60

**LDL: Low Density Lipoprotein (the “bad cholesterol”)** 130+ 100-129 <100

**Triglycerides:** 200+ 150-199 <150

# **IMPORTANT CHOLESTEROL** **FUCNTIONS:**

- **form cell membranes,**
- **aid in digestion,**
- **convert Vitamin D in the skin**
- **develop hormones.**



Written by  
MARK HYMAN, MD

Eggs Don't Cause Heart Attacks — Sugar Does

VIEWS  
157734



# Eggs Don't Cause Heart Attacks — Sugar Does

It's over. The debate is settled.

*It's sugar, not fat, that causes heart attacks.*

Oops. Fifty years of doctors' advice and government eating guidelines have been wrong. We've been told to swap eggs for Cheerios. But that recommendation is dead wrong. In fact, it's very likely that this bad advice has killed millions of Americans.

A rigorously done new study shows that those with the highest sugar intake had a four-fold increase in their risk of heart attacks compared to those with the lowest intakes. That's 400%! Just one 20-ounce soda increases your risk of a heart attack by about 30%.



For more information on  
the role of sweets in  
Heart Disease:

Dr. Mark Hyman

[www.drhyman.com](http://www.drhyman.com)



**In the 1940s**

**Through the 1960s, “Big Tobacco”  
mounted a propaganda campaign to make  
people think SMOKING was  
actually GOOD for your health !!**

**CHECK OUT the advertisements that were  
found in magazines from the 1940s –  
1950s !! . . . . .**

He's one of the busiest men in town. While his doorway says *Office Hours 2 to 4*, he's actually on call 24 hours a day.

The doctor is a scientist, a diplomat, and a friendly sympathetic human being all in one, no matter how long and hard his schedule.



According to a recent Nationwide survey:

# MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

DOCTORS in every branch of medicine... (11,117) in all—were queried in this nationwide study of cigarette preference. These leading research organizations made the survey. The gist of the query was—What cigarette do you smoke, Doctor?

The brand named most was Camel! The rich, full flavor and cool softness of Camel's superb blend of tender tobaccos seem to have the same appeal to the smoking tastes of doctors as to millions of other smokers. If you are a Camel smoker, this preference among doctors will hardly surprise you. If you're not—well, try Camels now.



Your "I-Zone" Will Tell You...



**I for Taste...**  
**I for Throat...**  
 That's your proving ground for any cigarette. See if Camels don't suit your "I-Zone" to a "T."

**CAMELS** *Crestler Tobaccos*



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**20,679\*** Physicians

say "**LUCKIES** are less irritating"

**"It's toasted"**

Your Throat Protection against irritation against cough

**EVEN TOUTED AS "GOOD FOR YOU" BY THE BIG TOBACCO COMPANIES !**

Noted throat specialists report on 30-day test of Camel smokers . . .

# NOT ONE SINGLE CASE OF THROAT IRRITATION *due to smoking* CAMELS!



Yes, these were the findings of noted throat specialists after a total of 2,470 weekly examinations of the throats of hundreds of men and women who smoked Camels—and only Camels—for 30 consecutive days.



MIKE DEBINA, our own favorite one of the hundreds of people who joined the test, was made the 100th Test of Camel Mildness under the observation of noted throat specialists.

... AND THOUSANDS MORE AGREE!



**JAMES JONES** says he has never had a throat problem since he started smoking Camels. He says he has never had a throat problem since he started smoking Camels.



**VIRGINIA ANDERSON** says she has never had a throat problem since she started smoking Camels. She says she has never had a throat problem since she started smoking Camels.



**TOM A. BROWN** says he has never had a throat problem since he started smoking Camels. He says he has never had a throat problem since he started smoking Camels.



**MYRTLE BROWN** says she has never had a throat problem since she started smoking Camels. She says she has never had a throat problem since she started smoking Camels.



**TOM REED** says he has never had a throat problem since he started smoking Camels. He says he has never had a throat problem since he started smoking Camels.



**ELIZABETH JONES** says she has never had a throat problem since she started smoking Camels. She says she has never had a throat problem since she started smoking Camels.



*Start your own 30-Day Camel MILDNESS Test Today!*

It's so easy to do! All you do is smoke Camels and wait 30 days. Then you'll know for sure if you have a throat problem. If you do, you'll know it. If you don't, you'll know it. And you'll know it because you'll have a throat problem. If you don't, you'll know it. And you'll know it because you'll have a throat problem.

C'MON,  
LIGHT UP ..  
YOUR  
DOCTOR  
RECOMMENDS  
IT !!!

# YOUR GYNECOLOGIST SMOKES . . . .



**Lady  
with a Lamp**  
*(1946 Version)*

• The picture of medical beauty  
forming the first picture along with  
the picture of great success. That  
was "Nightwork," the "Lady with  
the Lamp." Elizabeth Taylor, the  
most famous woman in the picture  
business, played the part. The  
story, written by John G. Sweeney,  
was a hit in the "New Yorker."  
It inspired many books in  
the genre of "The Doctor's  
Life." The picture, directed by George  
Cukor, was a hit in the "New Yorker"  
along the path of success.

*According to a recent  
Nationalwide  
survey:*

## MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

• Men and women in every branch of medicine—112,377 in all—were queried in the nationwide study of cigarette preference. These leading research organizations made the survey. The gist of the query was: "Who cigarette do you smoke, Doctor?"

The answer? "More than Camels!"

The rich, full flavor and cool moisture of Camels' specially blended cigarette tobacco seem to have won the same favor in medical circles as with millions of smokers the world around. Try Camels now.



### TRY CAMELS ON YOUR "9-ZONE"



That's T for Taste and T for Throat, the most critical "9-zones" for any cigarette. But how your taste responds to the rich, full flavor of Camels' cigarette tobacco. The first step toward more to Camels' rich moisture. On the basis of the experience of many millions of smokers the nation Camels will win your "9-Zone" in a "T."

**CAMELS** *Coastal  
Tobacco*

# YOUR GYNECOLOGIST SMOKES . . . .

. . . . *Hopefully, not  
While she's doing  
Her job !* ☹️

**Lady with a Lamp**  
*(1946 Version)*

■ The power of medical research  
forming the best remedy goes with  
the power of great men. That  
was "Nightingale," she "lady with  
the lamp." I doubt she would  
have been so famous if she  
hadn't smoked Camels. —  
Tom Kelly, Famous Lady —  
Veda Murray — Anna Marchant  
— she had a long, long history.

In America today, thanks to  
the power of great men,  
the women doctors carry the  
lamp. They follow the path  
along the path of better service.

*According to a recent  
National Geographic  
survey:*

## MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

■ Men and women in every branch of medicine—112,707 in all—were queried in the nationwide study of cigarette preference. These leading research organizations made the survey. The gist of the query was: "Who cigarette do you smoke, Doctor?"

The answer? Almost none but Camels!

The rich, full flavor and cool moisture of Camels' specially blended cigarette tobacco seem to have won the same favor in medical circles as with millions of smokers the world around. Try Camels now.

**TRY CAMELS ON YOUR "B-ZONE!"**

That's T in Taste and T in Texture, the most critical "B-ZONE!" for any cigarette. But how your taste responds to the rich, full flavor of Camels' cigarette tobacco. For how your throat reacts to Camels' cool moisture. On the basis of the experience of many millions of smokers the nation Camels will win your "B-Zone!" in a T-T.

**CAMELS** *Costlier Tobacco*

# Viceroy's *FILTER* the Smoke!



As your Dentist,  
I would recommend  
**VICEROYS**

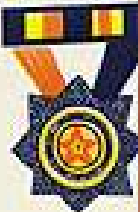
and...YOUR DENTIST SAYS IT'S "GOOD FOR YOUR TEETH!"



# Viceroy



VICEROY



VICEROY  
Filter Tip  
CIGARETTES



st,  
end

and...YOUR DENTIST SAYS IT'S "GOOD FOR YOUR TEETH!"

# Loss of tissue elasticity

## ■ Arteries

- Greater increase CVD- heart attacks and strokes

## ■ Alveoli

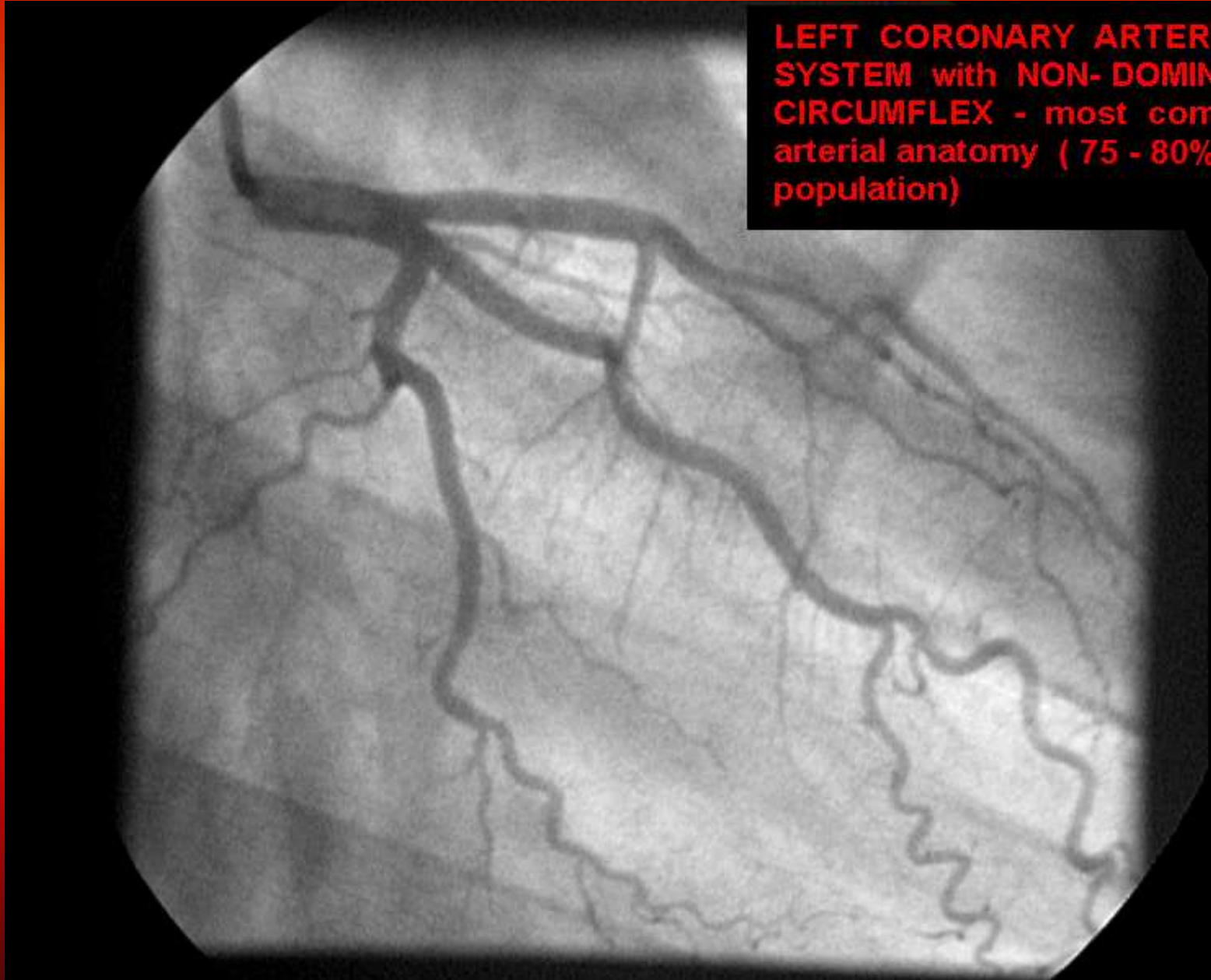
- Greater increase in respiratory disorders
  - Bronchitis
  - Asthma
  - Lung cancer

## ■ Skin (leathery)

- Increase physiological aging process
- Increase skin cancer



# HEALTHY CORONARY ARTERIES – 46 YEAR OLD MALE



**LEFT CORONARY ARTERY SYSTEM with NON-DOMINANT CIRCUMFLEX - most common arterial anatomy (75 - 80% of population)**

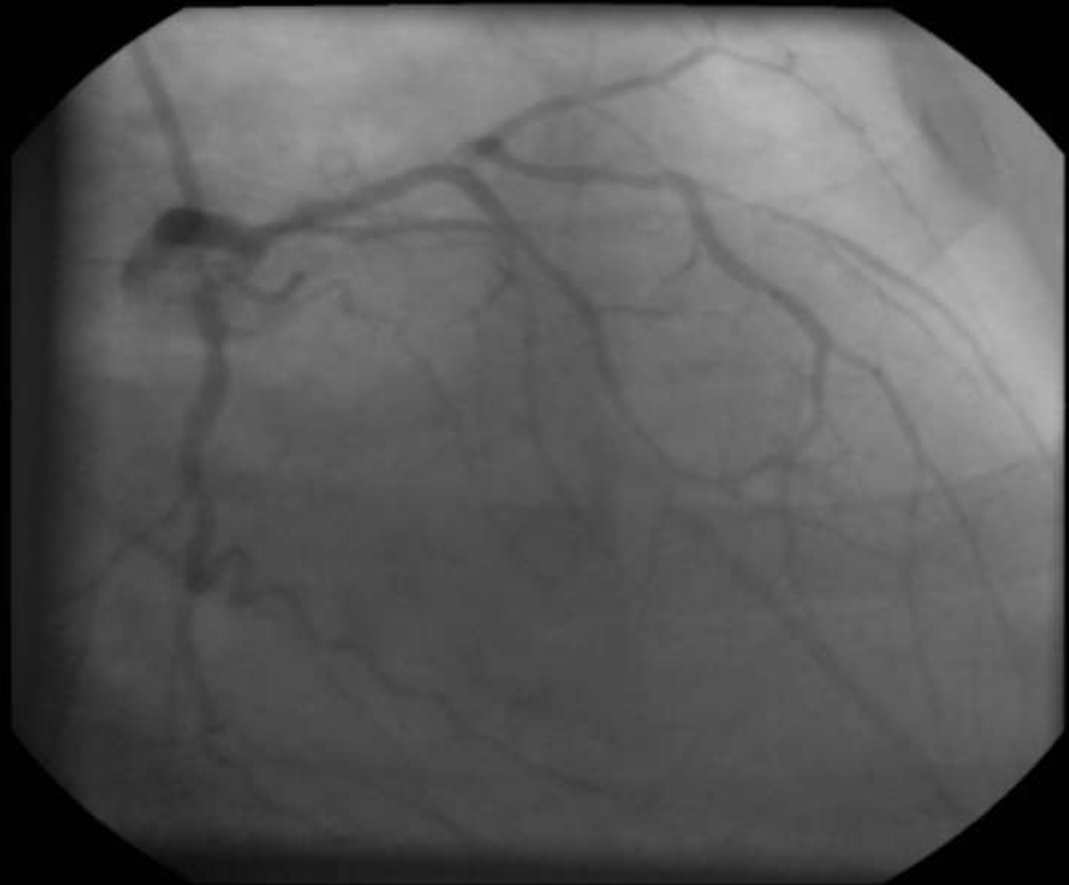
# SMOKING EFFECTS ON CORONARY ARTERIES

42 y/o  
MALE

SMOKER  
X 21  
YEARS.



**39 y/o MALE, 1-2 PPD SMOKER x 20 YEARS. HE HAS HAD 2 HEART ATTACKS, 1 STROKE. *IDENTICAL TWIN BROTHER, NON-SMOKER, an "avid runner and exercise buff," IS IN EXCELLENT HEALTH.***



# SMOKING EFFECTS ON CORONARY ARTERIES

29 Y/O

MALE

SMOKER

SINCE AGE 16

FATHER DIED

OF HEART

ATTACK AT

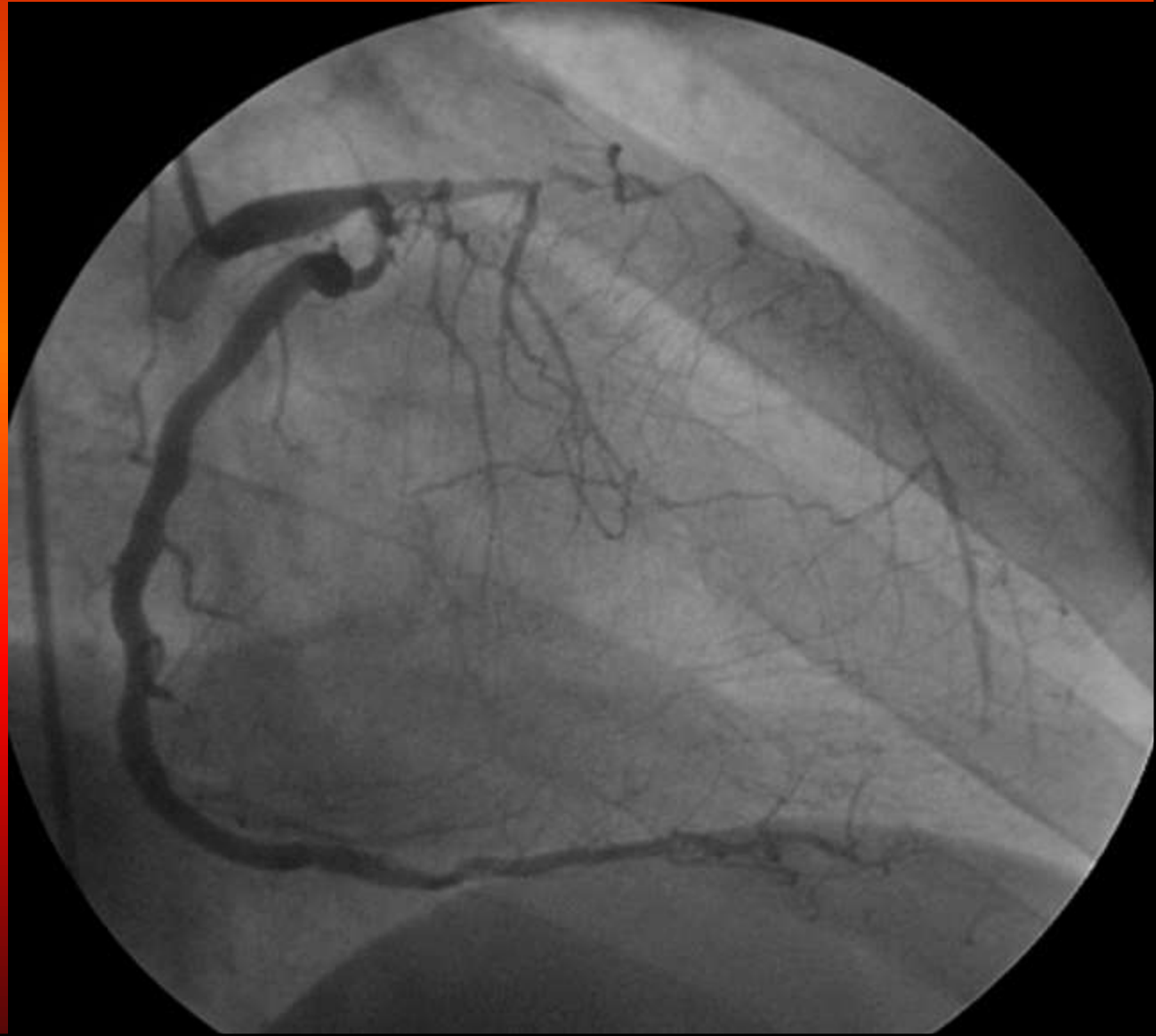
AGE 50



**45 y/o MALE, + SMOKER, FAMILY HISTORY OF HEART DISEASE.**

**NOT SUITABLE  
FOR  
ANGIOPPLASTY or  
OPEN HEART  
SURGERY.**

**ONLY OPTIONS:  
HEART  
TRANSPLANT or  
LASER  
REVASCULARIZATION**



## Smoking Cessation Support:

Tobacco Free Florida –

<http://www.tobaccofreeflorida.com>

American Cancer Society – “IQuitProject”

[www.cancer.org/quitforlife](http://www.cancer.org/quitforlife)

Gulfcoast North Area Health Education Center

<http://www.gnahec.org/program-areas/tobacco-cessation/>

# ***Cardiac Arrest***

# ***Cardiac Arrest***

- **Heart stops pumping blood.**
- **Patient not breathing or only “gasping”**
- **Skin rapidly turns ashen / blue**
- **Brain cells begin to die quickly: 4 -6 minutes**



# *Cardiac Arrest*

**PRIORITY ONE:    START CPR**



American  
Heart  
Association®

---

**GUIDELINES**  
**2015 | CPR & ECC**

**“Compressions-Only CPR”**

**VS.**

**“Traditional compressions with ventilations”**

## **2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care**

Based on meta-analysis of the 2 largest randomized trials (total n=2496):

1. Dispatcher instruction in compression-only CPR was associated with long-term survival benefit compared with instruction in chest compressions and rescue breathing.
2. Among the observational studies, survival outcomes were not different when comparing the 2 types of CPR.

# 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care

## Delayed Ventilation

2015 (New): For witnessed OHCA with a shockable rhythm, it may be reasonable for EMS systems with priority-based, multitiered response to delay positive-pressure ventilation (PPV) by using a strategy of up to 3 cycles of 200 continuous compressions with passive oxygen insufflation and airway adjuncts.

Initial Patient Contact - See Protocol # 201  
Patient pulseless, may have gasping/agonal breathing

**Cardiac arrest witnessed by EMS personnel  
OR  
Quality CPR in progress on EMS arrival**

NO

YES

200 Uninterrupted  
Chest Compressions<sup>1,2</sup>

Analyze with AED  
Shock (360 joules<sup>3,4</sup>) if indicated

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Shock (360 joules<sup>3,4</sup>) if indicated

Continue cycles of 200  
compressions followed by AED  
analysis/shock<sup>1,3</sup>  
BVM: 1 ventilation/ 15  
compressions  
May use mechanical CPR  
device (optional)

**DURING  
UNINTERRUPTED  
COMPRESSIONS:**

Airway Options:<sup>5</sup>  
Naso/oropharyngeal  
Airway

Ventilation Options:<sup>5</sup>  
No Ventilation  
or  
1 ventilation every 15  
compressions

Oxygen Options:<sup>5</sup>  
Via NRB  
or  
Via BVM

Give Compressions  
while AED is charging

**NO** mechanical CPR  
device during initial 10  
minutes

**Return of  
Pulse**  
**Assess Vital  
Signs**  
**Provide  
Oxygen and  
Ventilate as  
needed  
(Goal= SpO2  
95-99%)**  
**Place in  
Recovery  
Position**  
**Transport  
ASAP**

## PA Dept of Health EMS Protocols 2014:

[http://pehsc.org/wp-content/uploads/2014/05/Statewide BLS Protocols Final 020915.pdf](http://pehsc.org/wp-content/uploads/2014/05/Statewide_BLS_Protocols_Final_020915.pdf)

# Compressions Only CPR

[Watch American Heart Association “Hands-Only CPR Training Video](#)

<https://www.youtube.com/watch?v=VzSq-88lbak>

<https://www.youtube.com/watch?v=EcbgpiKyUbs>

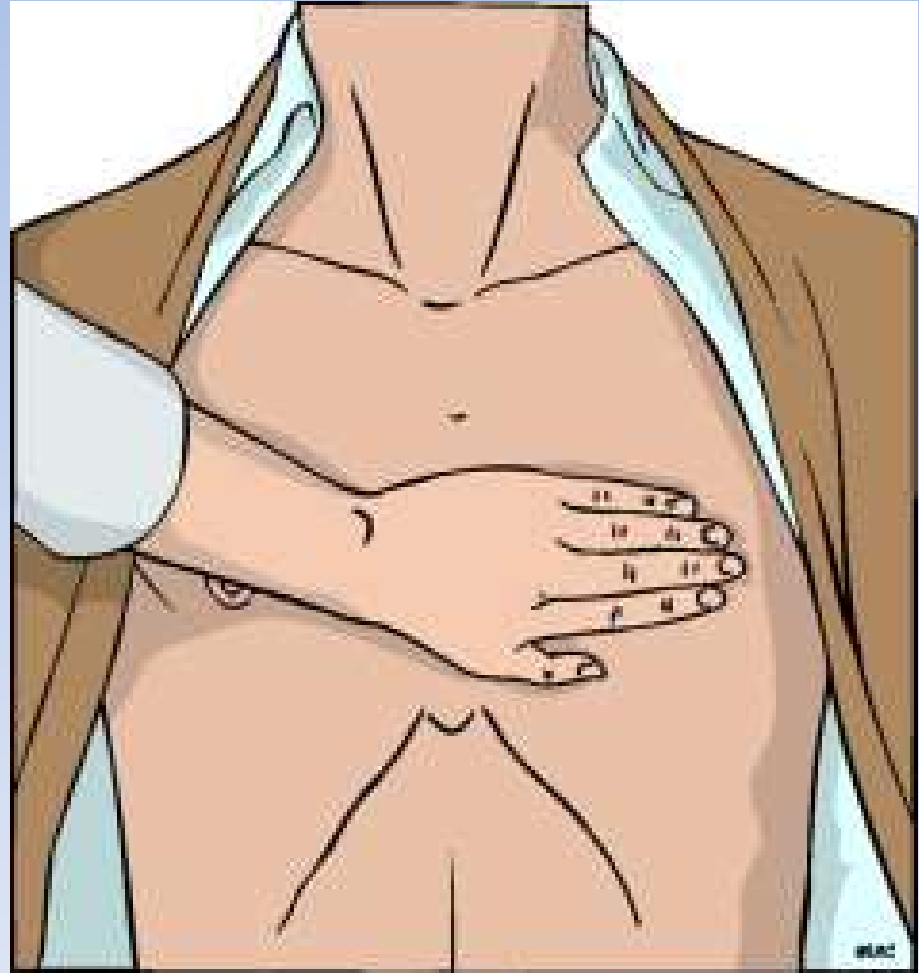


# APPROACH PATIENT

- MAKE SURE SCENE IS SAFE
- PATIENT IS UNRESPONSIVE, NOT MOVING,  
NOT BREATHING (OR HAS AGONAL GASPING)
- BEGIN CHEST COMPRESSIONS . . .

# Hand positioning

Heel of hand on  
lower ½ of  
sternum  
(breastbone)



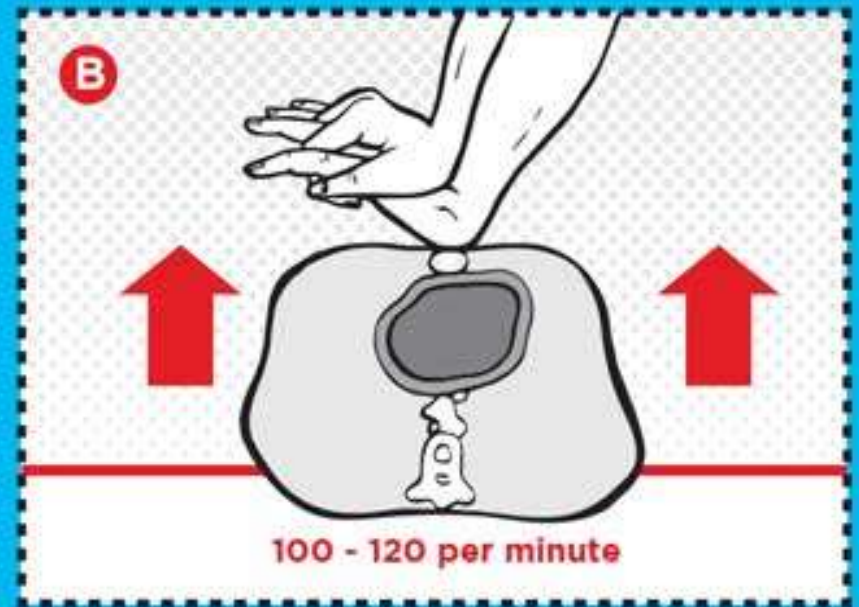
**ADULTS:** Press down 2.0 – 2.4 inches depth, then allow full recoil of chest



2" (5 cm) - 2.4" (6 cm)

CHEST COMPRESSIONS:

At least 2" (5 cm) and  
not more than 2.4" (6 cm)



100 - 120 per minute

COMPRESSION RATE:

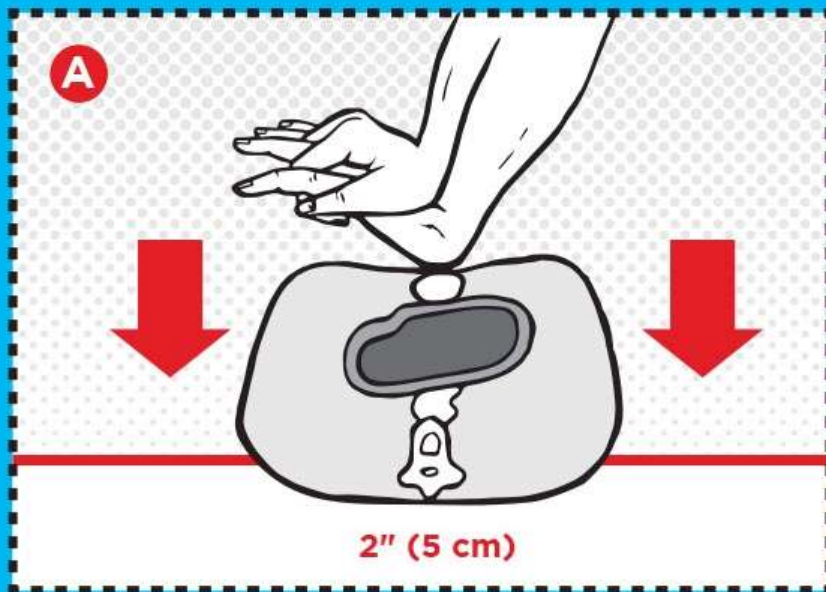
Between 100 and 120  
compressions per minute

# For purposes of CPR

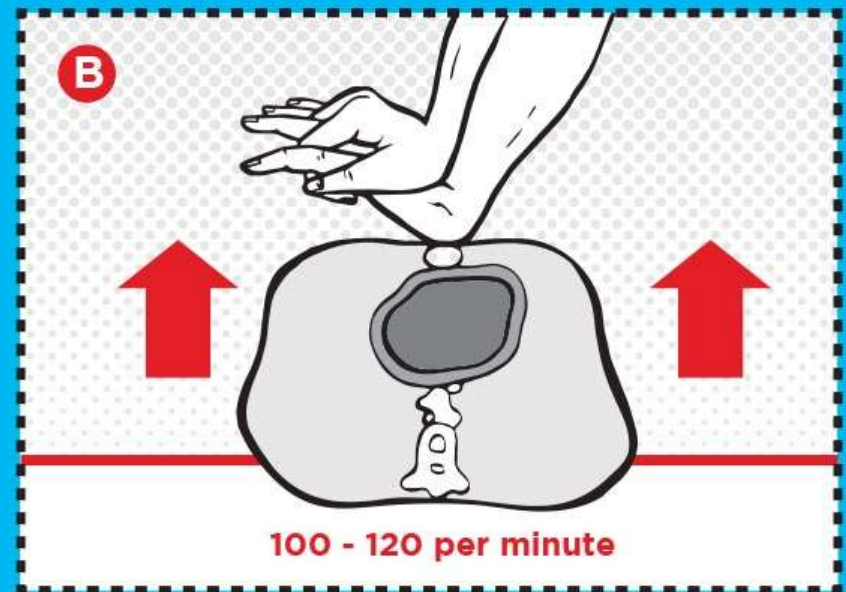
**Adults = Puberty age and up**

**Children = Age 1 - Puberty**

**CHILDREN:** Press down 1.5 – 2.0 inches depth, then allow full recoil of chest



CHEST COMPRESSIONS:  
Approximately 2" (5 cm)



COMPRESSION RATE:  
Between 100 and 120  
compressions per minute

# Hands-on CPR practice time!

Remember SCENE SAFETY !

To the tune of  
“Stayin’ Alive!”

[https://www.youtube.com/watch?v=l\\_izvAbhExY](https://www.youtube.com/watch?v=l_izvAbhExY)

# *Cardiac Arrest*

**PRIORITY ONE:    START CPR**

**PRIORITY TWO:    AED**



# Cardiac Arrest – Heart Rhythms

- **Ventricular Tachycardia**
- **Torsades de Pointes**
- **Ventricular Fibrillation**
- **Asystole**
- **Pulseless Electrical Activity**

***The AED will detect and provide a shock (Defibrillation) for the 3 deadly heart rhythms listed in RED above.***

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- **Ventricular Tachycardia**
- **Torsades de Pointes**
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- **Pulseless Electrical Activity**

***The AED will detect and provide a shock (Defibrillation) for the 3 deadly heart rhythms listed in RED above.*** For the rhythms listed in **BLACK**, the AED voice-prompt will say, “No Shock Needed. Continue CPR.”

# RESUSCITATE

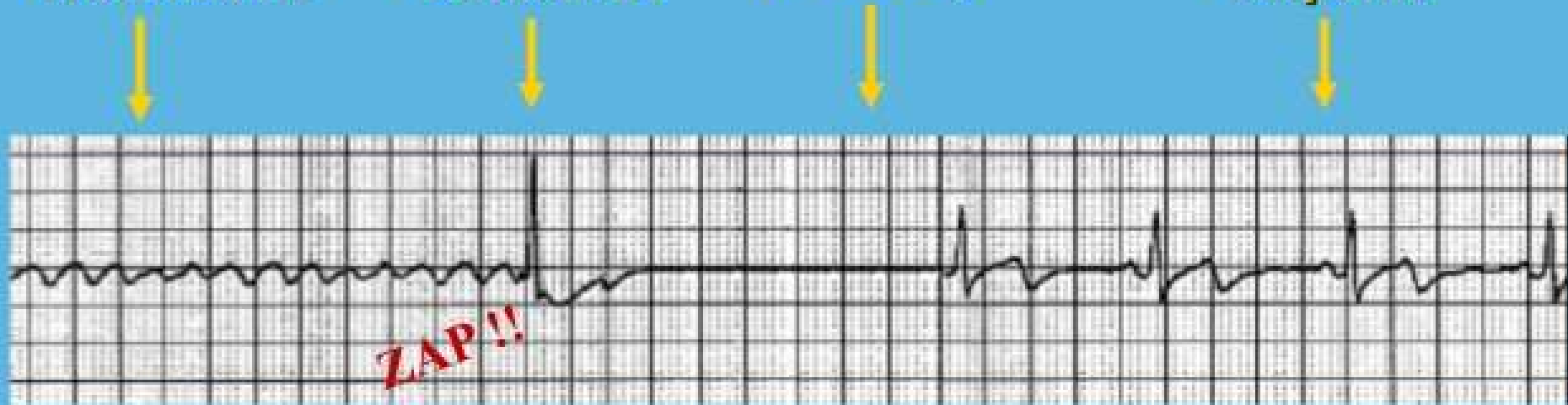
## How the AED Works

**Ventricular  
Fibrillation**

**Shock  
Delivered**

**Heart  
Recovery**

**Normal Sinus  
Rhythm**



In Ventricular Fibrillation heart muscles become all “squirmy”  
... they don’t pump blood properly

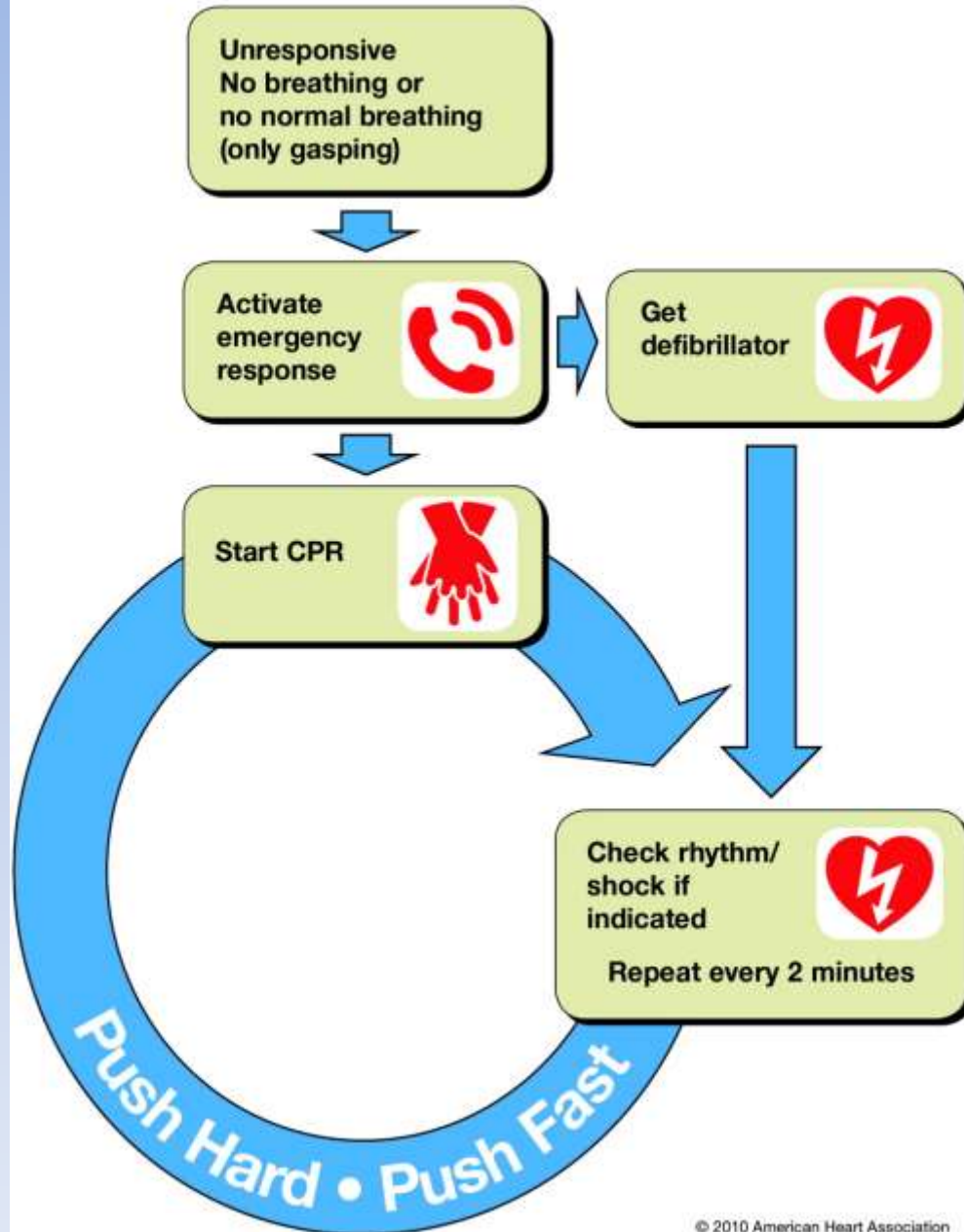
The AED recognizes that and shocks the heart  
... often that fixes the problem



# Ventricular Fibrillation

[CLICK HERE for animation of heart in VENTRICULAR FIBRILLATION](#)

## Simplified Adult BLS



AEDs – many different brands, but they've all got the same functions and instructions . . .



# UNIVERSAL INSTRUCTIONS

To Operate any AED:

1. Only apply to patients who are **UNRESPONSIVE** and **NOT BREATHING** (or are exhibiting “[Agonal Gasping](#)”).
2. **TURN AED ON.....** and follow its voice prompts !

**[CLICK HERE TO WATCH AED INSTRUCTION VIDEO](#)**



## QUICK USE INSTRUCTIONS

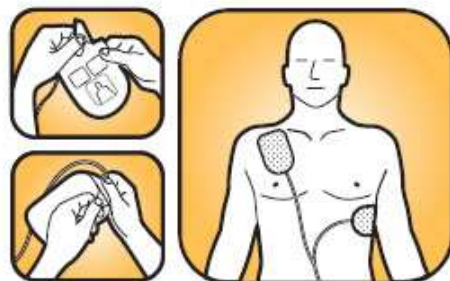
PRESS "ON"  
BUTTON

1



APPLY PADS  
FOLLOW AED  
INSTRUCTIONS

2



IF INSTRUCTED,  
PRESS "SHOCK"  
BUTTON

3



## WHEN TO USE

### WHEN TO USE THE AED

Use the AED when the patient is:

- Unconscious
- Unresponsive
- Not breathing

For patients under 8 years old or less than 55 pounds (25kgs), use child/infant electrode pads. Do not delay therapy to determine exact age or weight.

### WHEN NOT TO USE THE AED

The AED should not be used if the patient is:

- Conscious and/or responsive
- Breathing
- Has a detectable pulse

### WHO SHOULD USE THE AED

The user should have:

- Defibrillation training as required by local, state, provincial, or national regulations.
- Any additional training as required by the authorizing physician.
- Thorough knowledge and understanding of the material presented in this Operating Guide and in the User Manual (on Defibtech User CD).

# Use of an AED

- ❖ Power on the AED
- ❖ Apply pads to the victim's bare chest
- ❖ Plug the pads into the AED
- ❖ "Clear" the victim and allow it to analyze
- ❖ If a shock is advised, "clear" the victim again and press the shock button
- ❖ Continue chest compressions
- ❖ Every 2 minutes the AED will repeat the steps



**Discuss SAFETY CONSIDERATIONS for use  
of AED**

# HANDS-ON AED PRACTICE TIME !

1. If lid is CLOSED, open lid
2. Turn AED “ON” and follow instructions
3. Apply patches to Victim’s chest
4. When AED says: “Analyzing Rhythm, DO NOT touch patient,” STOP CPR
5. If AED states, “Shock Advised, STAND CLEAR, Charging– press RED BUTTON to SHOCK,” follow instructions.
6. IMMEDIATELY after shock delivered, resume CHEST COMPRESSIONS.
7. Switch rescuers every 100-200 compressions (1-2 minutes)
8. AED will re-check rhythm (and shock if needed) every 2 minutes.

For more information:

Local CPR/AED Training Programs:

Wayne Ruppert: [Wayne.ruppert@bayfronthealth.com](mailto:Wayne.ruppert@bayfronthealth.com)

This course brought to you by:



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6201 N. Suncoast Highway

Crystal River, FL 34428

352-795-6560