

*Kincardine*

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Family Health Team

## Cardiac Rehabilitation Program

# Understanding Cardiac Medications



# Topics for Discussion

- Prescription Pointers
- Heart Medications
- Questions!!



# Do You Know ...?

- 2-4% of patients who visit ER's have experienced a medication misadventure
- Another study that looked at medication use in people aged 60-106 yrs found:
  - On average 5 medications
  - 40% had at least 1 inappropriate medication

# Be Involved in Your Healthcare



Keep a record of all medications you are taking.

- Prescription medications
- Over-the-counter medications
- Vitamins
- Herbal medicines and remedies



# More Than a Medication List

- ✓ Name of medication
- ✓ Strength of medication.
- ✓ How often are you to take.
- ✓ Why are you taking this?
- ✓ How long are you to take it?



# Side Effects/Drug Allergies

- ✓ Know the difference between a side effect and a true allergy w what the side effects are and what you can do about them.
- ✓ Know what you are allergic to.
- ✓ What reaction did you have?
- ✓ Know the problems to report to your doctor.



# Drug interactions

- ✓ Is this medication safe to take with other medication you are taking?



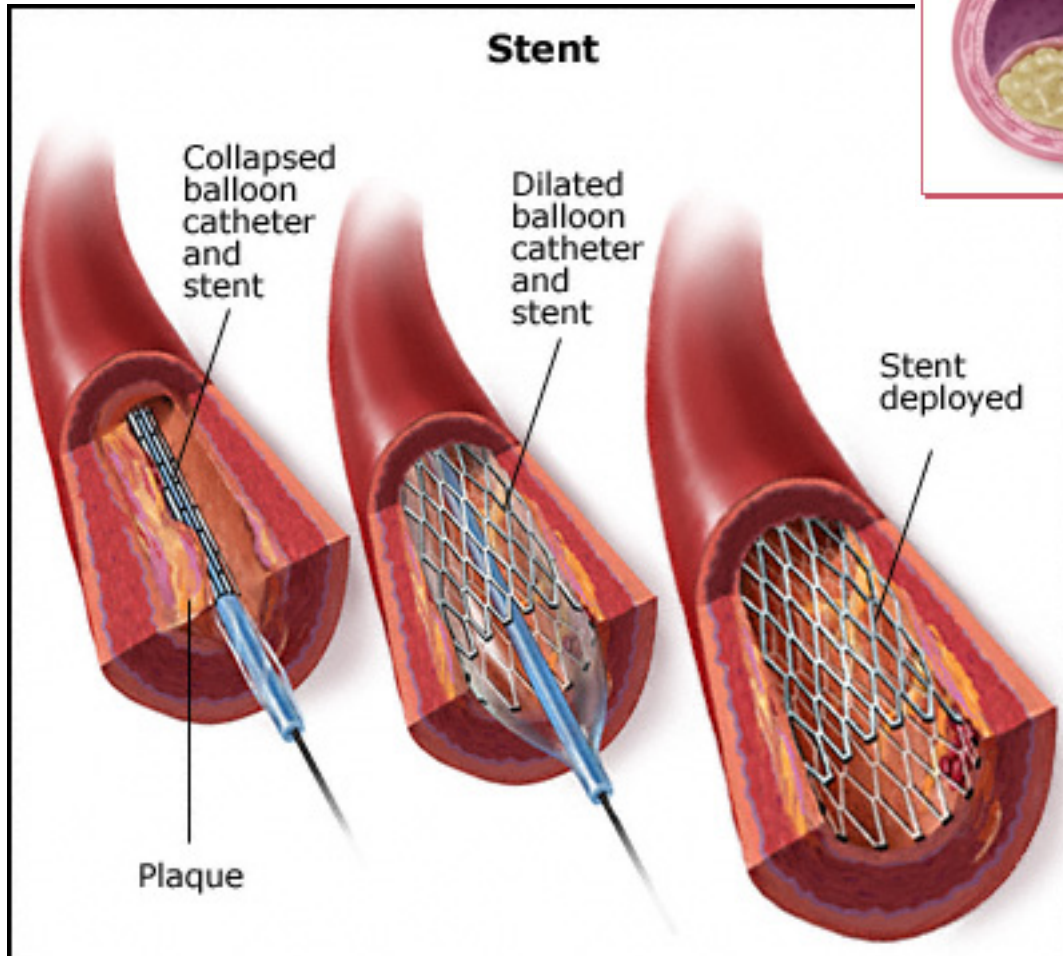
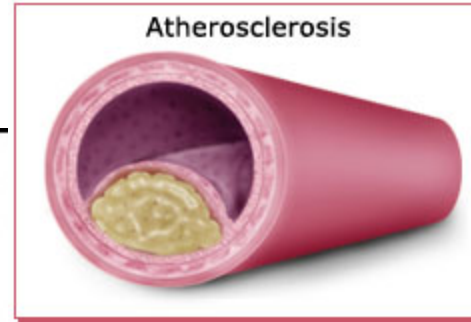
# Show your Medication Record

- Use the same pharmacy to dispense your medications.
- At least once a year, “brown bag” it!
- **Be in control of your health!!**



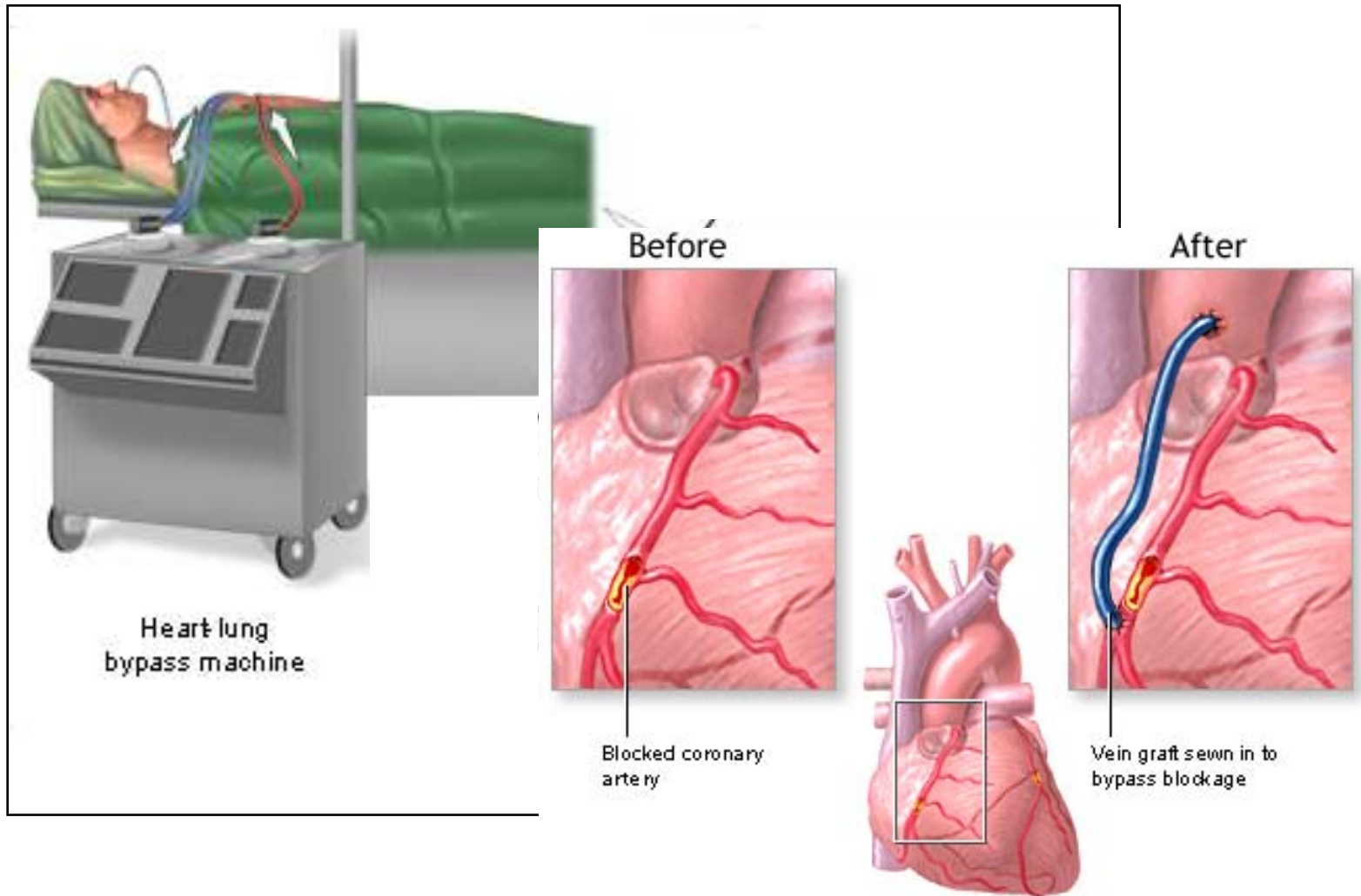
# Getting to know you ...

## Did you have a stent put in?



# Getting to know you ...

## Did you have cardiac surgery?



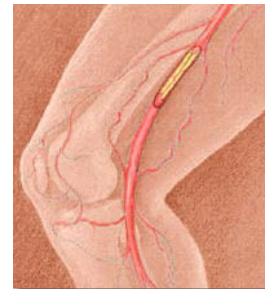
# Heart Medications



- ASA & Clopidogrel
- ACE Inhibitors
- Angiotensin II Blockers
- Beta-blockers
- Nitroglycerin
- Cholesterol Lowering Drugs
- Calcium Channel Blockers
- Diuretics
- Digoxin
- Warfarin

# ASA (ASPIRIN) & Clopidogrel (PLAVIX)

- Proven to reduce the risk of heart attack & stroke
- “Blood thinner” (antiplatelet)
  - helps prevent clot formation
- Clopidogrel may be used:
  - If patient can not tolerate ASA due to side effects or allergy
  - After stent placement (for 12 months) in combination with ASA
  - Peripheral Arterial Disease



# ASA (ASPIRIN) & Clopidogrel (PLAVIX)

## Side Effects:

- Bruising
- Minor bleeding
- Stomach upset
  - Irritation to stomach lining
  - Recommend using an enteric coated tablet to minimize risk of adverse effect example: EC ASA 325 or 81 mg tablets.
- Black tarry stools (stomach ulcer)



# ACE Inhibitors

Ramipril

ALTACE

Fosinopril

MONOPRIL

Enalapril

VASOTEC

Lisinopril

PRIVINIL/ZESTRIL

Captopril

CAPOTEN

Quinapril

ACCUPRIL

Perindopril

COVERSYL

Cilazapril

INHIBACE

# ACE Inhibitor Actions



1. Dilate blood vessels.
  - Lowers blood pressure.
  - Decrease heart workload/stress (less resistance)
2. Helps protect the kidney in diabetic patients.



# Uses for ACE Inhibitors

## Hypertension

- Will ↓ blood pressure alone or on combo with other blood pressure lowering medications.

## Heart Failure

- Reduce symptoms.
- Increase ability to exercise.
- Improves quality of life and survival.





# ACEI After a Heart Attack

- Heart ventricles enlarge after a heart attack.
- This may lead to other complications such as:
  - heart failure
  - another heart attack
  - hospitalization
- ACEI help reduce this enlargement and prevent complications!

# Side Effects

- Cough reported in 1-10 % of patients (dry, continuous)
- Metallic or sour taste
- Rash or throat swelling are likely allergic reactions – please report these adverse effects.
- Low blood pressure
  - Be careful when getting up from a sitting or lying position.
  - If experiencing dizzy spells throughout the day, ask about taking your ACE I at bedtime.

# Angiotensin II Blockers

Valsartan

DIOVAN

Irbesartan

AVAPRO

Candesartan

ATACAND

Losartan

COZAAR

Telmisartan

MICARDIS

- Used in people who can not tolerate ACE Inhibitors or combination with an ACE I in select heart failure patients
- Similar action & adverse effects (except cough)



# Beta-Blockers – Heart Selective

Metoprolol

LOPRESSOR

Atenolol

TENORMIN

Acebutolol

SECTRAL

Bisoprolol

MONOCOR

Carvedilol

COREG



# Beta-Blocker Actions

- Decrease heart rate
- Decrease blood pressure
- Decrease the workload of the heart.

# Beta-Blocker Uses



1. Hypertension
  - Decreasing the heart rate will lower blood pressure.
2. Angina
  - A slower heart helps reduce angina.
3. Heart Failure
  - May be helpful in some cases to reduce hospitalization, improve survival
4. Irregular (fast) Heart Rate
  - Such as atrial fibrillation

# Beta-Blocker Uses cont.

## Heart Attack (MI)

- ✓ Reduces the chance of another heart attack.
- ✓ Decreases the size of the heart damage.
- ✓ Decreases the risk of complications
  - Irregular heart beat
- ✓ Increases survival after a heart attack!
- ✓ Usually, heart attack patients require life long treatment with a beta blocker

# Beta-Blocker Side Effects

- Tiredness, fatigue
- Nausea, vomiting
- Stomach upset
- May worsen asthma or COPD
- May mask signs and symptoms of low blood sugar levels





# Nitrates

|               |                                     |
|---------------|-------------------------------------|
| Nitroglycerin | Patch, Sublingual Tabs<br>Spray, IV |
| Isosorbide    | ISORDIL                             |

# Nitroglycerin & Angina

- Nitroglycerin dilates blood vessels.
  - Increases blood flow to heart and lowers the heart's workload.
- Relieves angina quickly if taken under the tongue.
- ISORDIL and Nitroglycerin patches help prevent angina (chest pain)
- After bypass surgery, nitroglycerin patches are used for 4-6 months to protect the artery taken from the arm (prevents it from closing)

# Nitroglycerin Spray & Angina

1. Sit down. Spray 1 spray nitro under tongue.
  2. Wait 5 min.  
If still pain, repeat nitro.
  3. If after 3 doses, still have pain, come to ER.
- The spray may need to be primed by pushing button away from you for at least one spray.

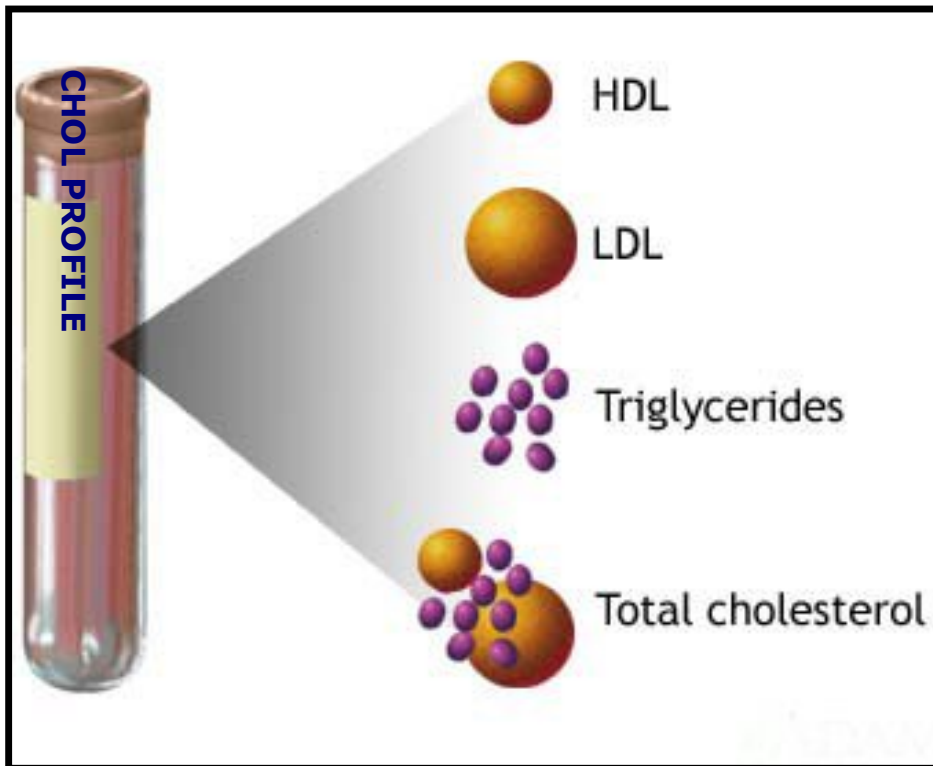


# Nitrate Side Effects

- Headache
- Dizziness
- Flushing
  
- Inform physician if on  
VIAGRA, LEVITRA, CIALIS
  - may further lower blood pressure in addition to the nitroglycerin's blood pressure lowering effect (fainting)

# Cholesterol Lowering Agents

- LDL targets are seem to always be going lower – less than 2 mmol/L !



- **HDL:** more than 1.1 mmol/L (good cholesterol)
- **LDL:** less than 2 mmol/L (bad cholesterol)
- **Triglycerides:** less than 1.7mmol/L (storage-form of fat)
- **Total cholesterol/HDL ratio:** less than 4 mmol/L



# Cholesterol Lowering Agents

Lovastatin

MEVACOR

Atorvastatin

LIPITOR

Pravastatin

PRAVACHOL

Rosuvastatin

CRESTOR

Fluvastatin

LESCOL

Simvastatin

ZOCOR



# Cholesterol Lowering Agents

- Lowers bad cholesterol and triglycerides
- Take in the evening or at bedtime to coincide with cholesterol production
- Grapefruit juice can increase the effects (and side effects) of statins
  
- Simvastatin and lovastatin levels increased more than atorvastatin by grapefruit
- Pravastatin and rosuvastatin largely unaffected by grapefruit juice



# Side Effects

- Mild stomach upset
- Dizziness
- More common - may cause muscle pain
  - See your doctor if you experience unusual muscle pain for 4-5 days with no improvement.
- Rarely - Increase in liver enzymes
  - Ensure your doctor orders a blood test regularly to check your liver function while taking a cholesterol medication.



# Fibrates

Fenofibrate  
Gemfibrozil

LIPIDIL  
LOPID

- Can be used in combination with statins.
- Main use is to lower triglycerides.
- Will also lower total cholesterol.

## Side Effects

- Stomach upset
- Increase risk of developing muscle pain when used with statins

# Other Cholesterol Lowering Medications – Newer

- Ezetimibe (EZETROL) – prevents absorption of cholesterol (reduces liver cholesterol storage)
- Orlistat (XENICAL) – dietary fats are not converted to absorbable fat
- Often used in combination with statin medications if there is difficulty with lowering cholesterol levels
- Adverse effects:
  - Tiredness, stomach pain – notify doctor if symptoms are severe.
  - Oily stools



# Calcium Channel Blockers

Amlodipine

NORVASC

Felodipine

PLENDIL

\*Nifedipine

ADALAT XL

\*Verapamil

ISOPTIN

\*Diltiazem

CARDIZEM

TIAZAC

\*Avoid in Coronary Heart Disease  
and Heart Failure

# CCB Action

1. Dilates blood vessels
  - Useful for high blood pressure.
2. Slows the heart rate (verapamil, diltiazem)
  - Useful for high blood pressure, angina, irregular heart beat



# CCB Side Effects

- Dizziness
- Tiredness, fatigue
- Peripheral edema
- Grapefruit juice interactions with felodipine, nifedipine, verapamil



# Diuretics

Furosemide

LASIX

Hydrochlorothiazide  
(HCT, HCTZ)

HYDRODIURIL  
DYAZIDE (combo)  
MODURET (combo)

Spiroinolactone

ALDACTONE

# Diuretics Action and Uses ♥

- Decrease the amount of water in the body by increasing urine output.

## Uses:

1. High blood pressure
2. Symptoms of congestive heart failure.



# Diuretic Side Effects

- Plan bathroom breaks!
- May need to take a potassium supplement.
- Low potassium
  - Muscle weakness, cramps.





# Digoxin

- Helps improve the strength and efficiency of the heart.
- Helps control the rate of the heartbeat.
- Used in heart failure and to the control heart rate (atrial fibrillation)



# Warfarin

- Anticoagulant
- Lengthen the time for blood to clot
- Vitamin K in diet

# Warfarin and supplements

- Other blood thinners increasing warfarin effect
  - Ginkgo biloba, St. John's wort, Ginseng( ↑ ↓ ), Dong guai, Danshen, Chondroitin.
- Co-enzyme Q10
  - Interact with warfarin effect, reducing its effectiveness.



# Cough & Cold Season

- Avoid pseudoephedrine (SUDAFED) based products (some contain as much as 120 mg)
- Nasal decongestants can cause rebound congestion
- Double-check all OTC selections with pharmacist

# Thank you



This presentation has been developed by the Cardiac Rehabilitation staff at the Regional Cardiac Care Centre of St. Mary's General Hospital, Kitchener, Ontario.