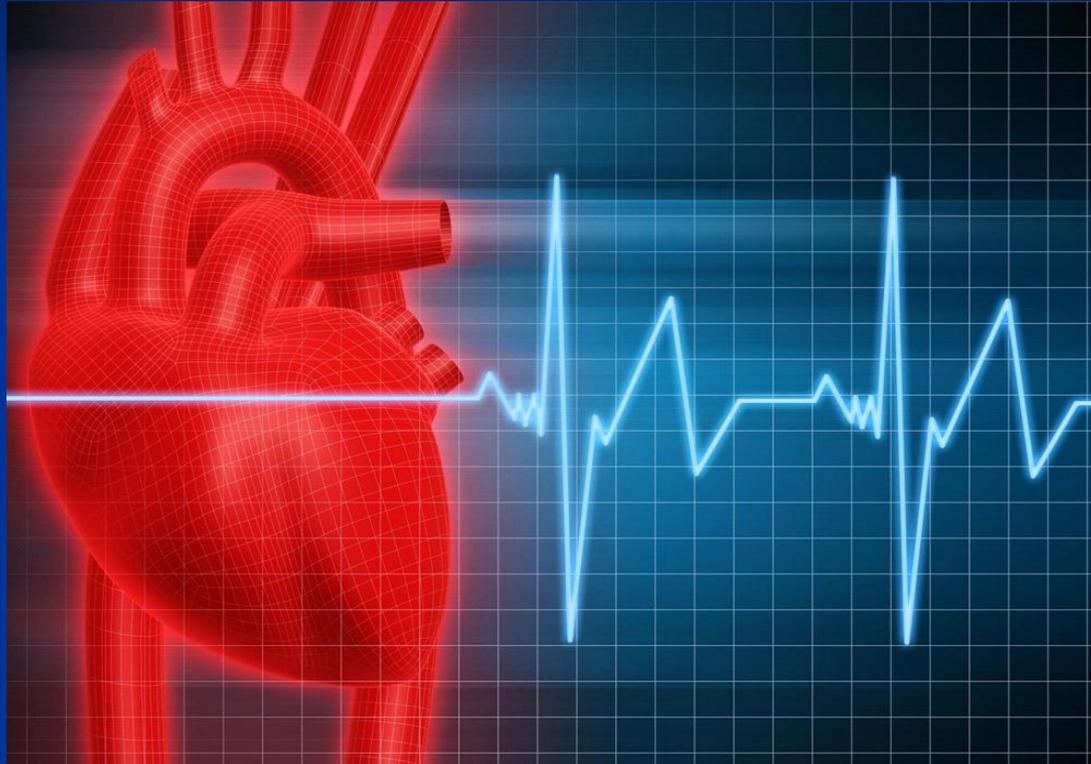


# Nurse-led Cardioversion for Patients with Atrial Fibrillation



**Carolyn Dereskiewicz**

Cardiology Matron

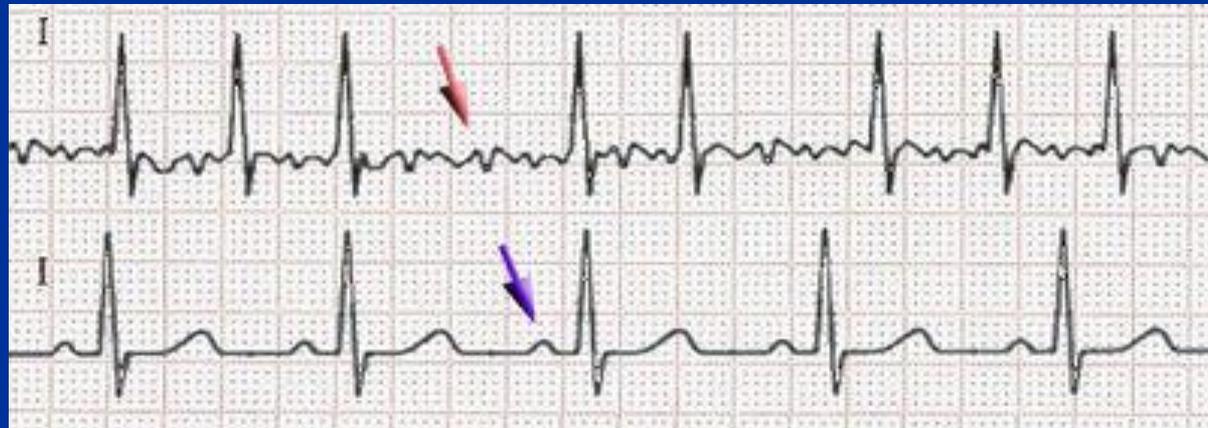
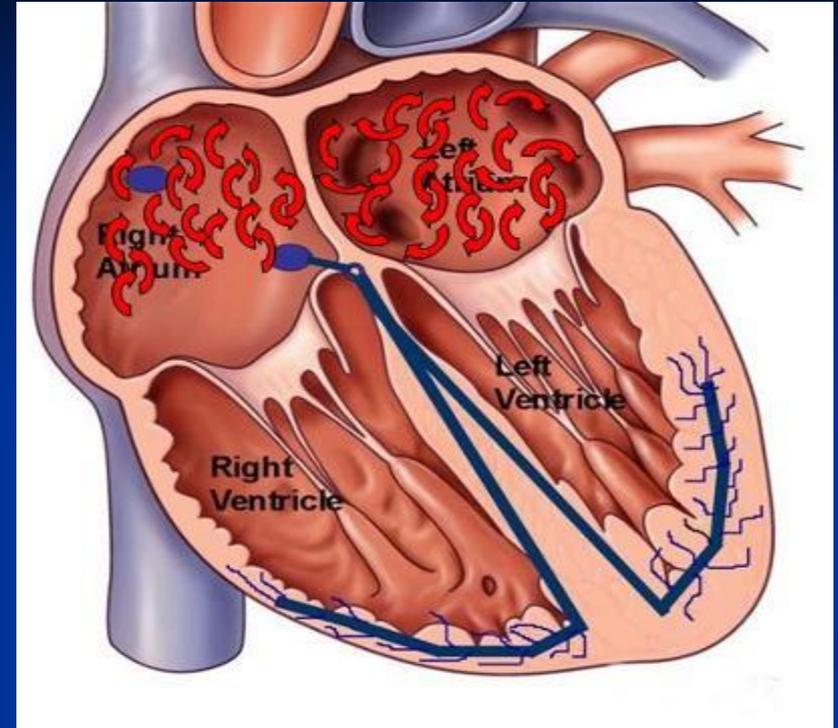
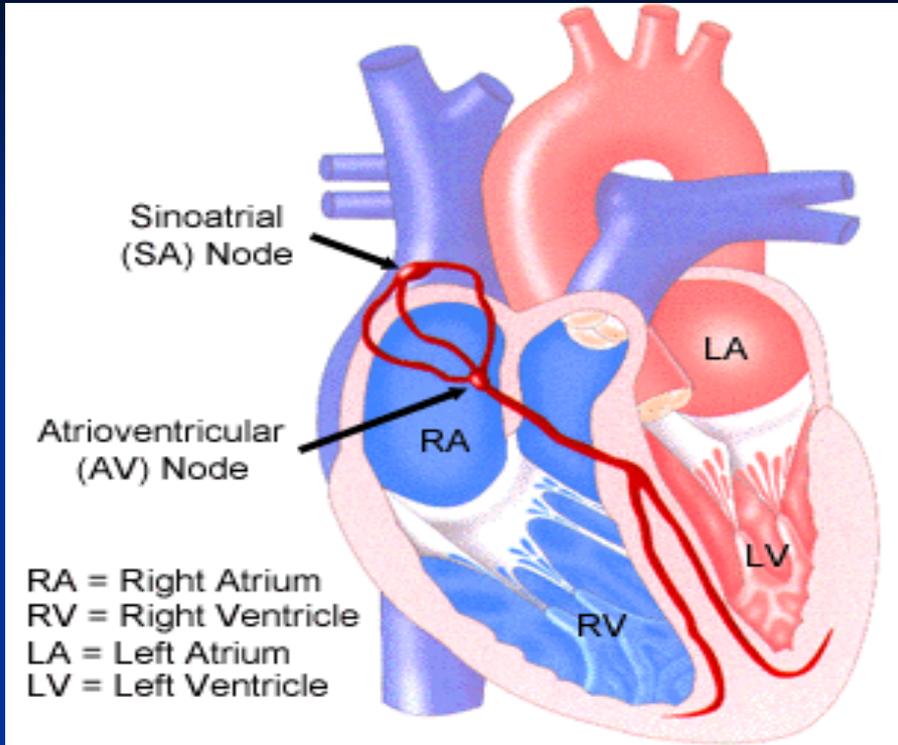
# Introduction

- Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia
- Incidence 0.4% general population
- Quality of life is known to be adversely affected by rhythm disturbance
- Aims of treating AF are to eliminate symptoms, prevent complications by restoring sinus rhythm
- One method is to use direct electrical current, Cardioversion
- Risks of procedure: embolic events cardiac

# Atrial Fibrillation

- Most common arrhythmia
- Involves both atria's
- Can be id by pulse check/12 lead ECG
- SA node overwhelmed by erratic electrical impulses originating in atria and pulmonary veins.
- Ventricular response is irregular.
- Palpitations, syncope, chest pain, heart failure, stroke are common presenting symptoms

# Pathway of conduction



# History

- Patients listed for cardioversion were admitted to Coronary Care Unit for the procedure having fasted for 12 hours
- Short general anaesthetic given by anaesthetist
- Cardioversion performed by medical staff
- Occasional cancellation after admission since no anaesthetist available
- Moderately satisfactory

# History

- 6 years ago one junior anaesthetist complained that this practice was unsafe in CCU
- Thereafter anaesthetists refused to perform cardioversion in CCU
- All patients had to be cardioverted in anaesthetic room of the operating theatres
- This led to tremendous disruption of the service and was catastrophic!

# History

- Patients admitted to CCU in a fasting state in the morning
- They waited there until called to the operating theatre suite when anaesthetists were ready
- Often they waited and waited and waited!
- Many waited till late in the evening
- Some were then cancelled suddenly, sent home to be rebooked!
- Complaints came thick and fast!
- All of us, including patients, got fed up!

Waiting list piling up, patient dissatisfaction with the service increased,  
Delays in treatment protocols and pathways





# History

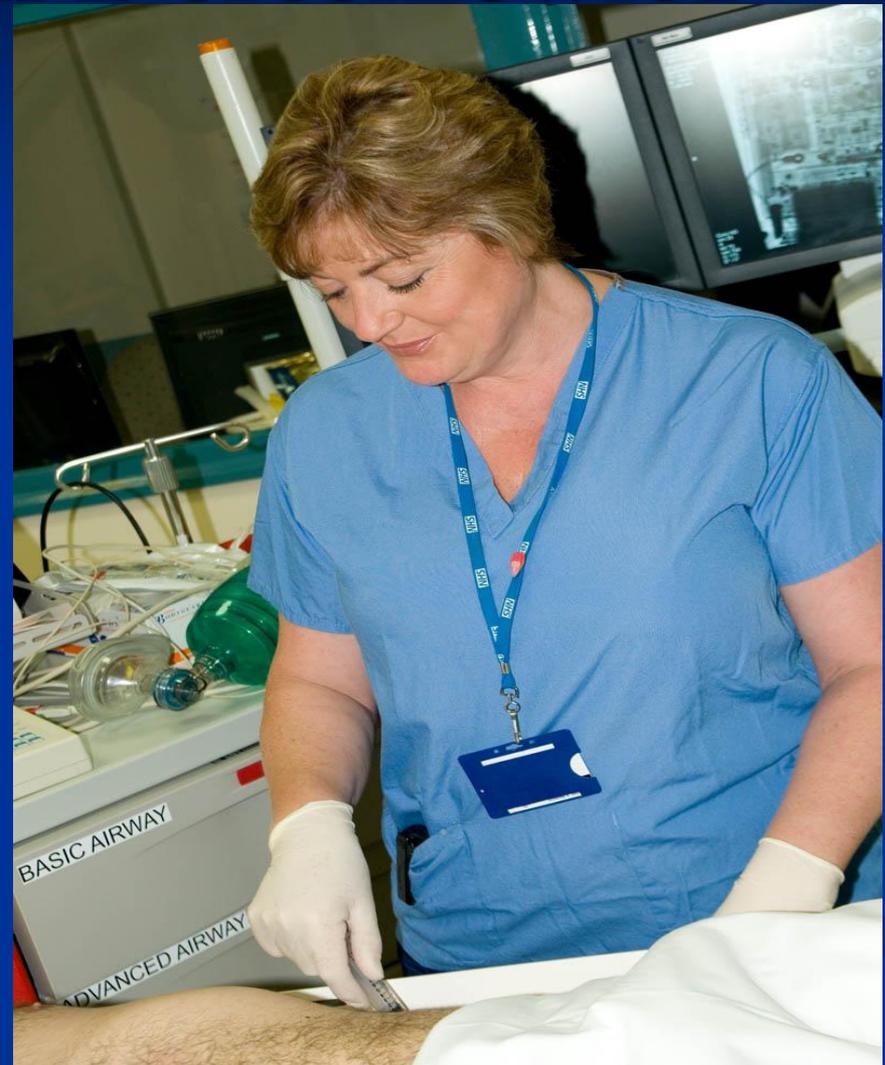
- One Cardiologist assigned to take over the practice of cardioversion under midazolam sedation in CCU
- This has been highly successful and audits of this practice presented at local meetings
- Cardioversion moved from CCU to Day Ward of Catheter Lab, next to Cardiology Dept.
- Finally Matron Dereskiewicz has taken over from the Cardiologists, performing cardioversions independently

# Matron Carolyn Dereskiewicz

Qualifications: BSc, RN,  
ENB (National  
Qualification in  
CCU/ICU), ENB998,  
ALS

Experience in CCU  
nursing: 27 years

Matron in Cardiology for  
7 years



# Audit of Nurse-led Cardioversion

# Procedure

- Patients with AF considered suitable for cardioversion are referred by Cardiologists to the Specialist Nurse-led AF clinic
- In clinic patients are advised about procedure, informed consent obtained, commenced on Warfarin, echocardiogram checked, bloods checked, given information leaflet about cardioversion and listed
- Once INR  $>2$  for at least 4 weeks, admitted to Day Ward of Catheter Lab for the procedure

# Procedure

- Patients admitted to CCL.
- 12 lead ECG, BP & vital signs checked.
- Electrodes placed on chest for continuous ECG monitoring
- Oxygen delivered via face mask, with O<sub>2</sub> sat. monitored by finger probe
- Midazolam given i/v via venflon to induce sleep
- Biphasic DC shock, 75-200 joules delivered
- ECG recorded at end of procedure



# Procedure

- Once fully recovered patient allowed home
- Advised to continue Warfarin and antiarrhythmic drugs
- Reviewed in AF clinic after one month
- Referred back to referring Consultant Cardiologist
- Reviewed after 6 months and then 12 months (NICE recommendations)

# RESULTS

# Results

Total number of patients = 196

# AGES

Range: 29 years to 88 years

20s: 1

30s: 1

40s: 7

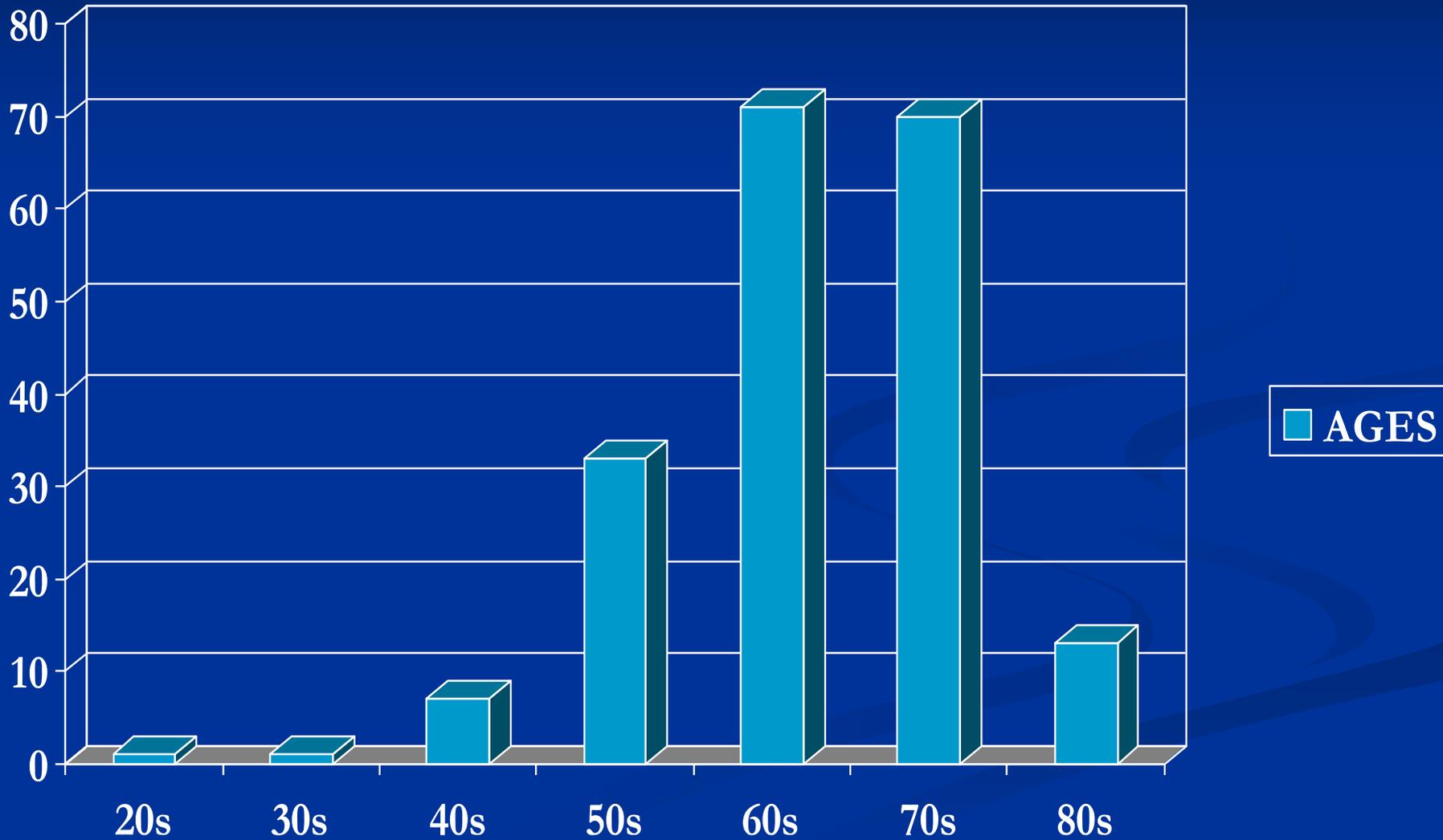
50s: 33

60s: 71

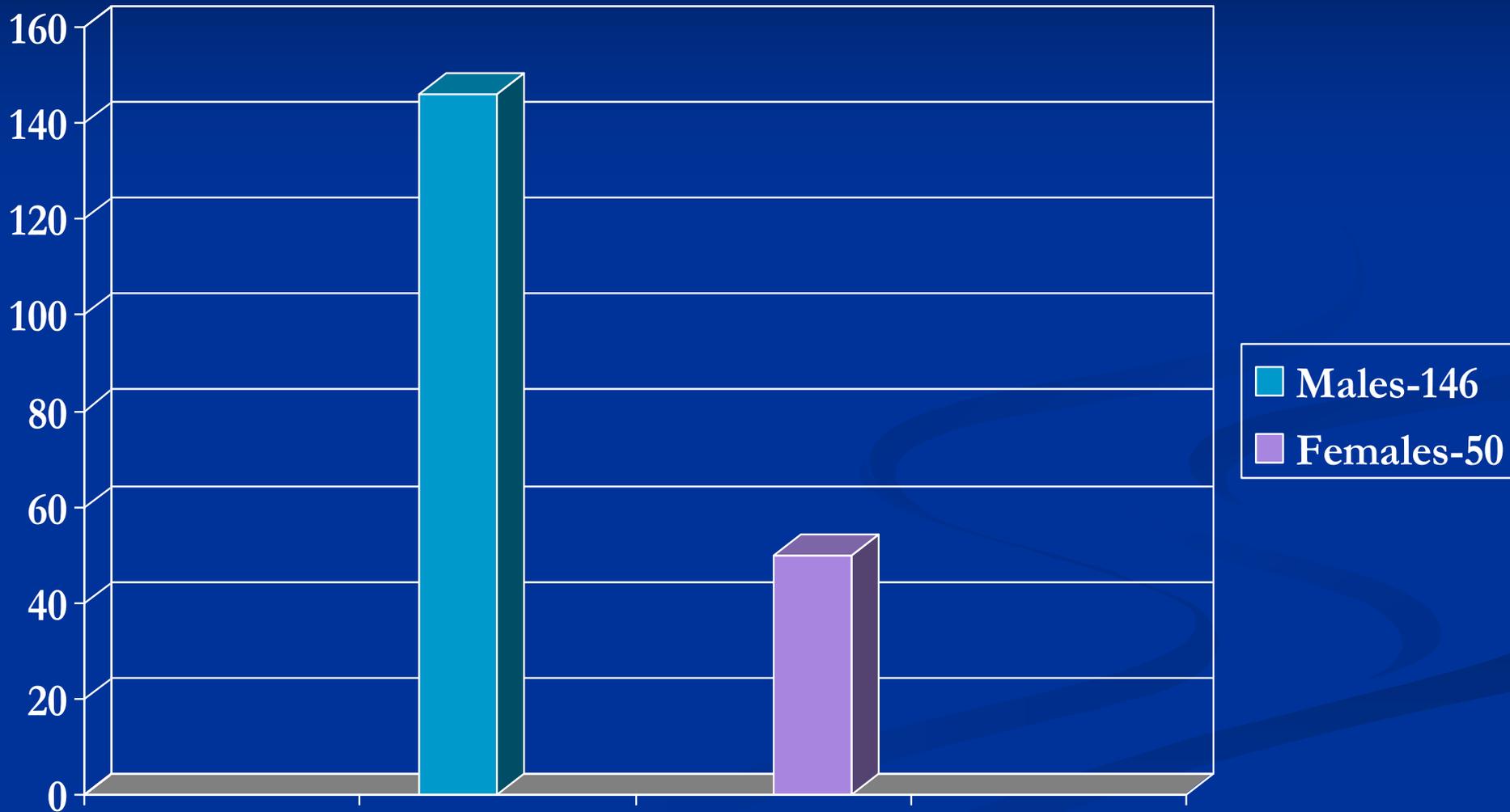
70s: 70

80s: 13

# AGES

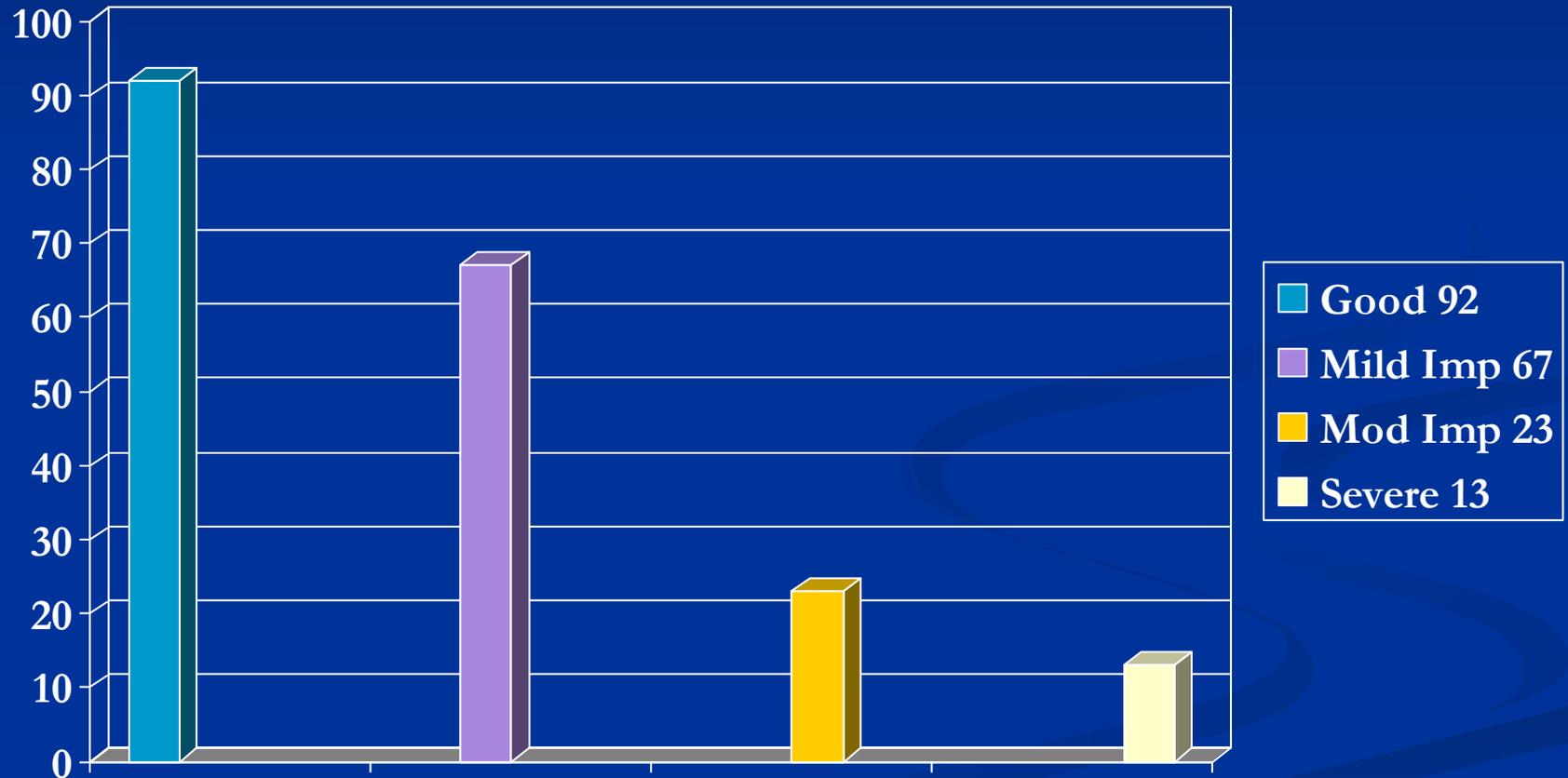


# Sex Distribution

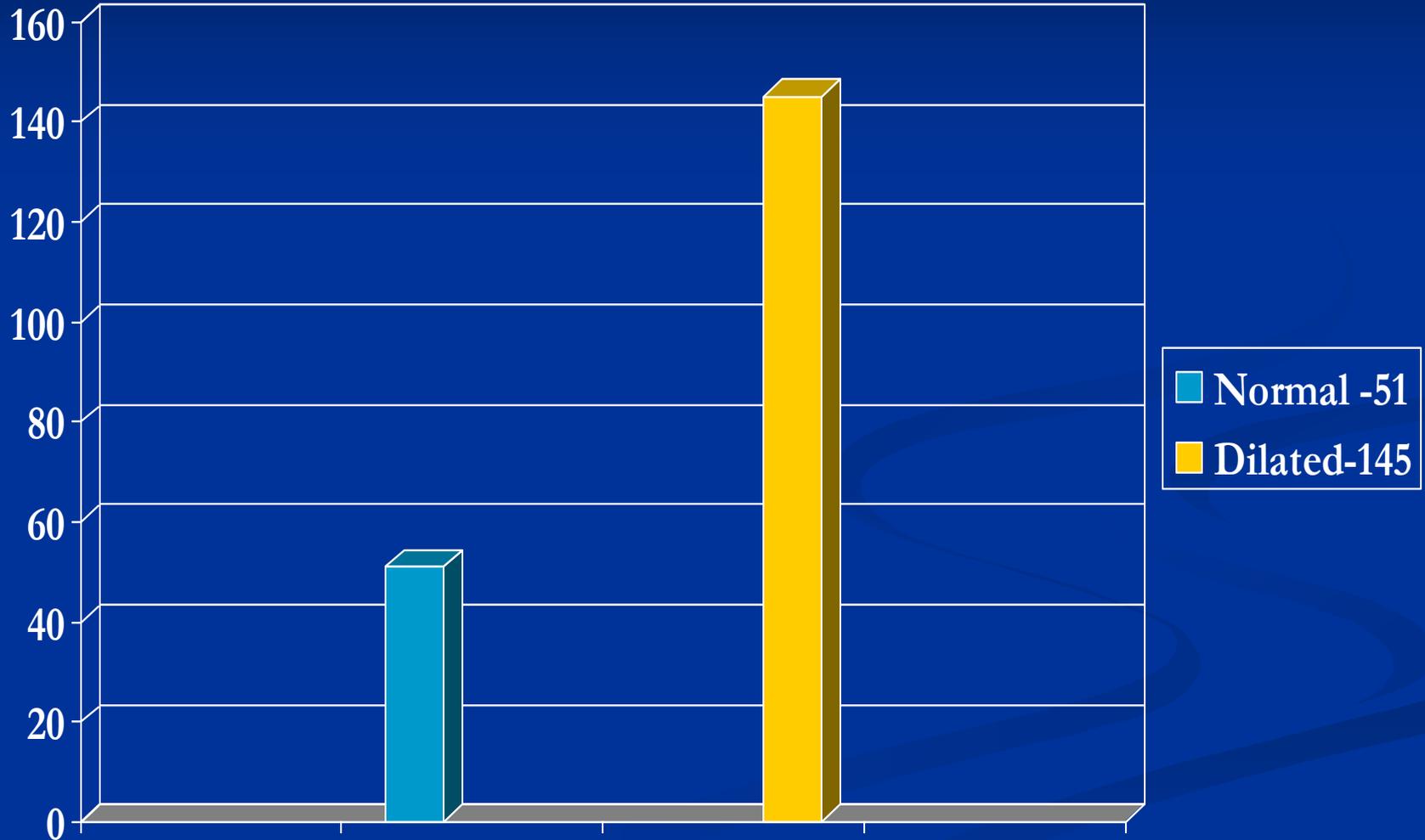


# ECHOCARDIOGRAM

# Left ventricular function



# Left atrial size



# DC Shock required for conversion to sinus rhythm

66 patients required: 75 joules

62 patients required: 120 joules

27 patients required: 150 joules

35 patients required: 200 joules

# Outcome

- 168 patients were successfully cardioverted to sinus rhythm
- 24 patients cardioversion was unsuccessful. Sinus rhythm could not be restored
- 3 patients were in sinus rhythm on admission
- 1 patient had brief period of asystole needing manual chest compression with success
- There were no other complications at all

# Conclusions

- Nurse-led cardioversion for AF is safe
- It is effective and highly efficient
- It relieves cardiologists for more specialised work
- There were no complications
- Feed-back questionnaires revealed high level of patient satisfaction
- No patient was postponed to a later date
- There was not a single complaint

# Conclusions

- The practice of Nurse-led cardioversion has resulted in a dramatic improvement in our management of patients with Atrial Fibrillation, before, during and after cardioversion
- Members of the nursing team led by Carolyn Dereszkiewicz have a sense of tremendous satisfaction and pride in their performance
- This feeling is shared by the entire Cardiology Team

# Recommendations

- Nurse leading cardioversion should be suitably qualified, experienced in coronary care nursing and cardioversion, be trained in ALS (Advanced Life Support)
- Cardioversion should take place in a monitored safe environment with immediate access to Crash Team

# Recommendations

Providing the above conditions are met, we would recommend Nurse-led cardioversion to all Units performing this procedure

# Future challenges



100% satisfaction can lead us to believe its clear skies ahead!!!  
But we need to stay focused and think of the future.

THANK YOU