The Minutes of the Derby Medical Society 2nd November 2016
Derby Medical School Lecture Theatre

Surviving and Thriving in an Era of Performance Monitoring

Guest Speaker: Mr Ben Davies PhD, FRCS (C Th), Consultant Paediatric Cardiac Surgeon at Great Ormond Street Hospital for Sick Children, Honorary Consultant Cardiac Surgeon St. Bartholomew's Hospital London

GOSH was founded in 1852 and Mr Davies ran through a brief history of the hospital.

He went on to summarise the evolution of Cardiac surgery from systemic to pulmonary artery shunts in 1944, intracranial repair in 1954, transatrial repair of tetralogy of Fallot in 1963, development of Prostoglandin E in the 1970's and then complete repair in 1980 of tetralogy of Fallot.

Surgical palliation first performed and developed by Dr Alfred Blalock, treating tetralogy of Fallot.
Lillehei developed further techniques with 52% patients going home.
Gibbon developed the heart-lung machine.

Cardiac surgical survival has steadily improved over the years.
Mortality now is less than 5% in the UK.

Performance monitoring in cardiac surgery is not new. Voluntary registers were in place in the 1970's but it was not until the investigation and report published in 1995 into mortality at the Bristol Paediatric Cardiac Surgery that mandatory monitoring came into place.
Bruce Keogh was an adult cardiac surgeon in Birmingham before retiring from clinical practice.
Keogh and Kinsman (2003) published a report stating that mortality rates were acceptable if within 99.9% of the national average.

Recommendations made by Prof Jim Munro made after Bristol enquiry were not acted on - Most importantly that every paediatric cardiac unit should be undertaking at least 300 operations per year. This was not implemented and in 2003 would have meant the closure of 50% of the units.
There was no change in NHS Governance and no changes were made.
Review by Sir Ian Kennedy QC echoed these recommendations
BUT politicians find hospital closures unpalatable.

Following the investigation into Bristol, paediatric surgery mortality rates were subject to public scrutiny. Disclosure of raw mortality data but The Guardian in 2005 did not reflect patient risk factors.
This publication of raw data without adequate explanations has led to some defensive practice and some patients may have been declined surgery.

The USA publish risk adjusted data on a departmental level, not individual level.

The surgeon is one part of the team so it is difficult to hold them up as responsible for death rates.

Using the example of the strategy employed that resulted in Leicester City winning the Premiership last year, it demonstrates that statistical analysis and team planning with strategy can bring success.

The Bristol issues flagged up by mortality rates of Arterial switch procedure for transposition of the great arteries.
Data is collected based on 30 day survival rates are variable but 90 day survival is more accurate measure of success as it takes into account later complications.

VLAD plots monitor cases done, re-operation and death rates.
Commitment to excellence needs vigilance, minimise error, continuous problem solving, anticipation of failure.

Mark de Leval was one of first cardiac surgeons to publish his death rates for arterial switch procedures. This resulted in him initiating mentoring and improving his own practice to improve outcomes.

The Ferrari company were involved in reviewing and improving the transfer of neonates to the PICU at GOSH to try and reduce errors and risk.
A checklist was developed to ensure smooth transfer.
Checklist is also used through the IP stay.
A performance ward round is held weekly at the department. All data relating to the surgery, time on bypass, surgical time, recovery, stay on PICU and Length of stay are reviewed against standardised normal ranges.
The team continuously review flow through the department - see photo
Complication rates are reviewed from small issues (cannulae left in longer than expected) to major (return to theatre required)
Patient safety is the key with a focus on drug errors, line infections, etc.
Mortality has dropped over 5 years to 0.93%

Ben summarised by saying that to work effectively in a high pressure, highly scrutinised speciality you have to be honest with yourself and the team, data must be credible and of the highest quality, errors must be minimised, continuous problem solving, and anticipation of failure.
Be humble, there is no room for arrogance.
Post-operative care has better outcomes with strict protocols

It takes 10-15 years once a cardiac surgical consultant to reach your full potential.

There were many questions around the subjects of:
The concept of team approach nationally?
How to good teams get built?
Performance management - Paediatric cardiac department run Census's and collect data
Challenges to developing services and expansion are person dependent - London is expensive to live in. How to attract and retain nursing staff.
Questions about the consent procedure- surgeon only meets parents evening before or morning of surgery
Cardiac Surgery in Bangalore on an Industrial scale - although mortality is 14%.

The vote of thanks was given by Mr Chris Chilton (Retired Consultant Urologist) who taught Ben as an under-graduate.

Register: 27 members
4 students

Next Meeting: Wednesday 16th November 2016

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Mr K Jones, President