Caring for ICD patients

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Background

1st implant in 1980
Shock box – thoracotomy abdominal placement
Transvenous systems from early 90’s
Subpectoral implants from approximately 1995, dual chamber soon after
Bi-ventricular devices for heart failure patients
Technical functions

- 1-3 leads + pulse generator
- Sudden onset criteria
- Stability criteria
- Treatment zones
- Pacing
- Cardioversion
- Defibrillation
A device can’t solve all problems…

Cheney’s defibrillator, Bush’s defibrillator.
Some of the issues?

- Living with an arrhythmia (or at risk)
- Dependent to some degree on technology
- Implanted device and body image
- Safety issues
- Incorporating technology into everyday life
- Own and family concerns (device and condition)
No one told me anything

- Anxiety, sedation, dementia, hypoxia (CHB, HF, SCD)
- Repetition in and out of hospital, different formats verbal, written, video, inclusion of family members?
- Not just technical – prepare for daily life
- Consistency!
Over to you – what restrictions?

- Initially – keeping the wound dry!
- Bra straps & wound site
- Underwired bras & submammary implants
- Electromagnetic fields
- Driving
- Other people’s misconceptions
- School/work
Myths about living with PPMs and ICDs

- Microwaves
- Mobile phones
- Contact sports
- Sex
- Physical activity
Driving – the facts

- Refer to DVLA website regularly! Sept 08
  www.direct.gov.uk/en/motoring/index
  www.dvla.gov.uk/media/pdf/medical/aagv1.pdf

NB – EF <40% = bar from group 2

- After pacemaker (includes box change) 1-6wks off HGV/group2
- After ICD– 1–6 months or permanent ban (HGV/group 2)
- ICD box repositioning – 1wk if settings not changed
- ICD electrode or antiarrhythmic drug changes 1/12
- All recommendations subject to condition of regular review & interrogation and there are no other disqualifying conditions.
Magnets – the facts

- MRI – PPM = a strong relative contraindication
- ICD = contraindication until further research available (Prasad & Pennell 2004)
- Arc welding – field visit
- Alternator in car engine
- Security – shop/airport
- Inhibition of ICD shocks
Avoid electromagnetic scanners

Manufacturers give lists of centres able to check/adjust their devices

Consider impact of co-morbidities – HF, CHD

"More and more of our imports come from overseas."

- George W. Bush
Follow-up

- Technical device clinics
- 4-6 wks then annually for PPM, 3-6 months for ICD
- Getting to clinic - driving
- Remote follow-up – suitable for all?
Situations that may be encountered

- GP
- Admission to non-cardiac ward
- Admission to DGH
- Problem in the community
- Problem at work/school

“YOUR MOTHER AND I FOUND OUT YOU’VE BEEN BLOGGING. WE DON’T KNOW WHAT THAT MEANS, BUT WE’D LIKE YOU TO STOP.”
Fear of a shock
Being dependent on others
Interviews with partners of ICD patients

| Patients need for the device                      | Trying to accept  
|                                                 | Needing more information  
| Reactions to the device                          | Feeling grateful  
|                                                 | Waiting for the shock  
|                                                 | Knowing what to do  
| Safeguarding the patient                         | Hiding own worries  
|                                                 | Being close by  
|                                                 | Imposing physical limitations  
|                                                 | Changes to health and temper  
| Returning to normality                           | Getting back to normal  
|                                                 | Role reversal  
|                                                 | Looking ahead  

Safeguarding the patient

We did have a really good sex life but I said I don’t want the thing going off

He’ll never drive on his own and he’ll never drive with the grand children!

We have a lot of friends and they will probably come and help

I was frightened to leave him and if I went shopping I always made sure my daughter would be with him

I do not to let him see that I am worried

Fear and anxiety

Dare not argue, just in case
Whose needs are not well identified?

- Children and young adults with devices
- Patients with learning difficulties
- Family members, friends
- Healthcare professionals – especially in emergency services, non-specialist areas and primary care
Patient issues with ICD storms

- VT storms - causes? Underlying altered pathology – ACS, electrolyte imbalance, ↓ ejection fraction
- inappropriate storms – lead fracture, programming
- Fear of recurrence – possible reprogramming, treat underlying cause if possible, CBT
- Review prognosis?
Does ICD storm = end-of-life?

In the dark days, before doctor-patient confidentiality.
Severity of Heart Failure: Modes of Death

Resuscitation v arrhythmia control

- Cardiac arrest rhythms versus other arrhythmias
- Continuum of physiologic derangement
- Clarification of each patient’s goal of care
- Ideally discussed prior to implant, reviewed periodically (especially if health status declines).
- Is the ICD impeding ‘active dying’ or sustaining a life the patient no longer values?

Management of ICDs at end-of-life

- Terminal illness versus acute onset e.g. stroke
- DNR order may not include deactivation of ICD
- Likelihood of successful outcome?
- Timeframe?
- Discussions with patient and family (Goldstein et al. 2004 – poor)
- Issues for staff – family understanding of what will happen when device deactivated
- Facilitating deactivation in the community
Any questions?

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