Management of heart failure in the last months of life

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Mr Ali

HFrEF, previous CABG

CKD (eGFR 24)

DM II

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HFrEF, previous CABG

CKD (eGFR 24)

DM II

Furosemide 120mg BD

Dapaglifozin 10mg OD

Ramipril 1.25mg OD

Bisoprolol 2.5mg OD

Sitigliptan 25mg OD

Insulin

Mr Ali

Breathlessness

Fatigued and struggling to get out of bed

Discomfort

Myoclonus

Managing fluids, little food

Poor prognostic signs

- >1 admission or unplanned visit to HF clinic within last 12 months
- Intolerant to B-blocker or ACE-I/ARNI
- LVEF <20%
- Worsening RV function
- Worsening renal function
- Worsening liver function
- Ventricular arrhythmias/ICD shocks
- Need for escalating diuretic doses for persistent congestion
- SBP <90 mmHg and/or signs of peripheral hypoperfusion

McDonagh T.A., et al. 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure.
Eur. Heart J. 2021:42;3599-3726

Diagnosing the dying patient

- Advanced, progressive life threatening illness
- Step wise change in physical function
- Day to day change

Diagnosing the dying patient

- Nursed in bed /profound weakness
- Drowsy/reduced consciousness
- Managing sips only/unable to take oral medication

Diagnosing the dying patient

- Symptoms
  - Agitation
  - Cheyne-Stoke breathing
  - Noisy respiratory secretions
  - Mottled skin
- Patient acknowledging they are dying

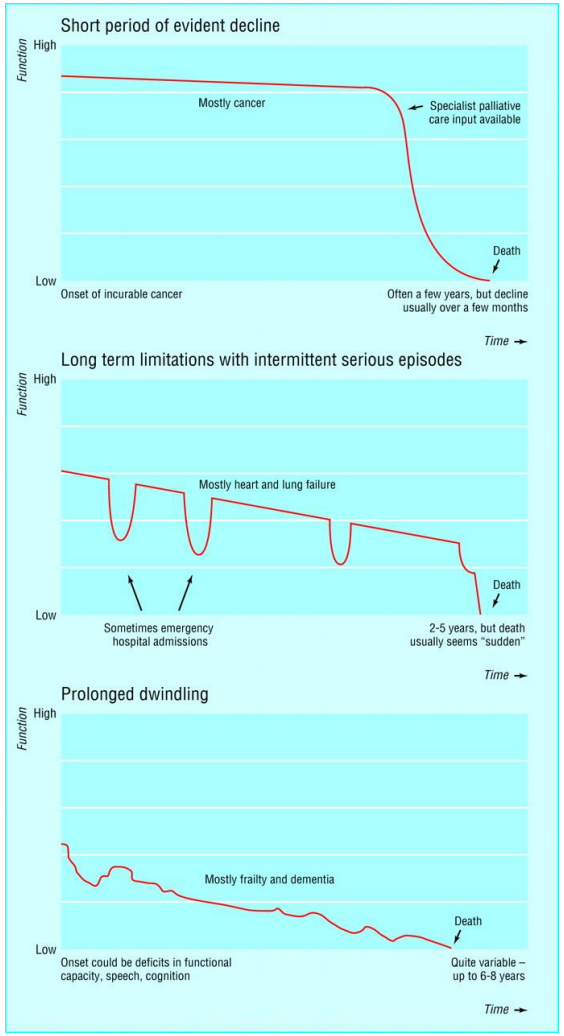
Diagnosing the dying patient

Potentially life prolonging treatment is inappropriate

No easily reversible cause

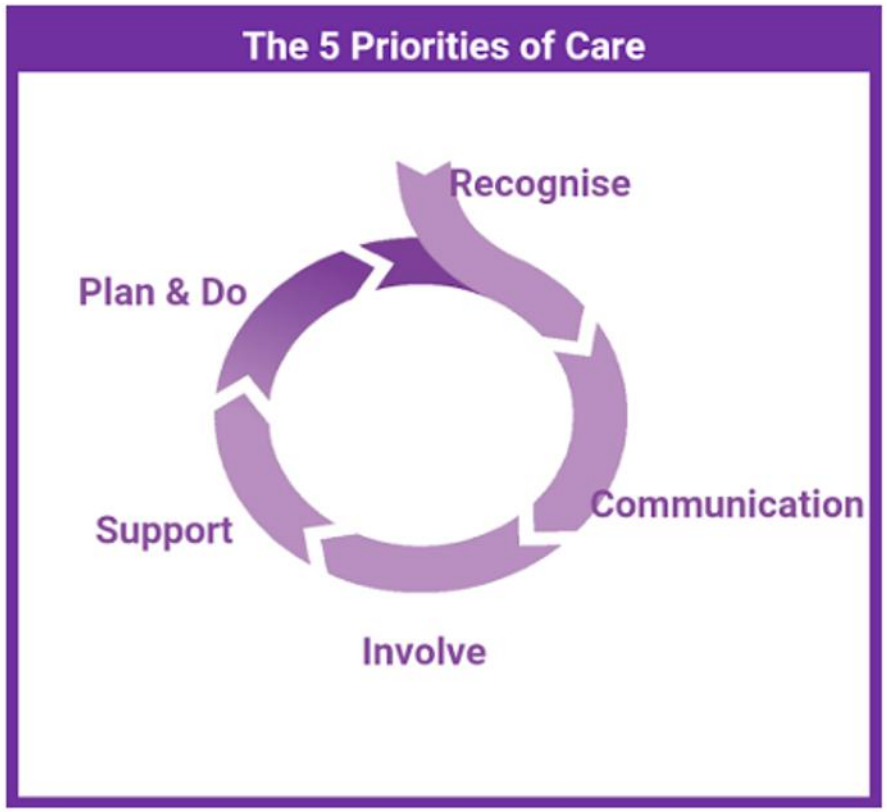
- Opioid toxicity/medication
- Dehydration/biochemical imbalance/
- Infection

Typical illness trajectories for people with progressive chronic illness



Murray SA, et al. Illness trajectories and palliative care. BMJ 2005;330(7498):1007-11

Priorities of Care for the Dying Patient



Medication review

Essential	Consider stopping	Non essential
Analgesic Antiemetic Anxiolytic Anti-secretory	Corticosteroids Hypoglycaemics Anticonvulsants Diuretics Parkinson's medication	Antihypertensives Antidepressants Laxatives Anti ulcer drugs Anticoagulants Long term antibiotics Iron Vitamins Diuretics Anti-arrhythmic

Rayment C, Ward J. Care of the dying patient in hospital. BJHM 2011;72(8):451-5

Medication review

Essential	Consider stopping	Non essential
Analgesic	Corticosteroids	Antihypertensives
Antiemetic	Hypoglycaemics	Antidepressants
Anxiolytic	Anticonvulsants	Laxatives
Anti-secretory	Diuretics	Anti ulcer drugs
	Parkinson's medication	Anticoagulants
		Long term antibiotics
		Iron
		Vitamins
		Diuretics
		Anti-arrhythmic

Seek advice

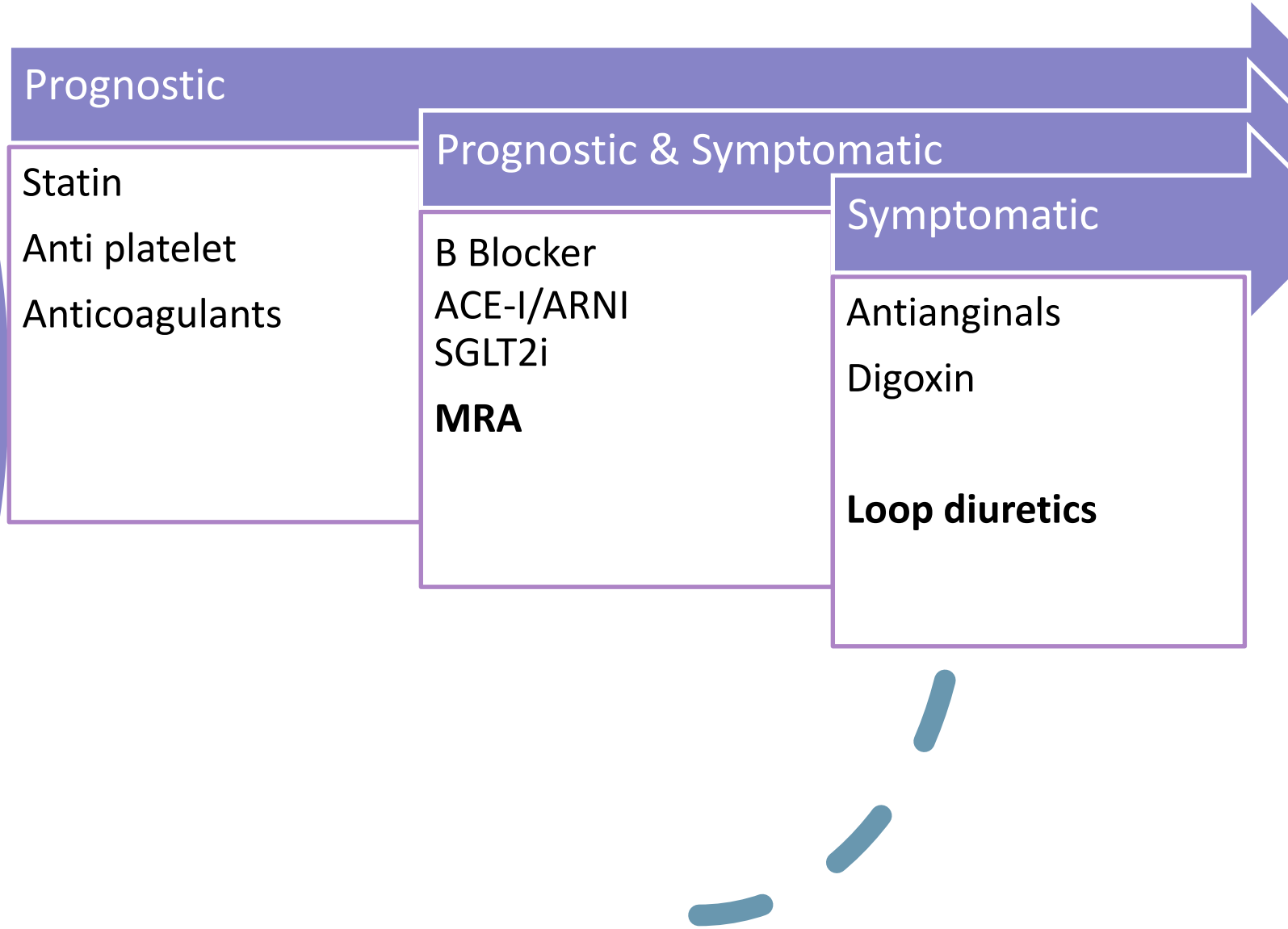
Rayment C, Ward J. Care of the dying patient in hospital. BJHM 2011;72(8):451-5

Hypoglycaemics

- Type 2 stop oral drugs
- Type 2 insulin
  - consider stopping
  - Or reduce dose OD
- Type 1
  - Continue OD reduced dose

End of Life Diabetes Care. Diabetes UK 2021

HFrEF Medications



Medicines Optimisation Guidance for Adult Patients with a Limited Prognosis

Section 1: Introduction

- This guidance is intended for use by healthcare professionals in any care setting when conducting a structured medication review and optimising medication for patients **with a limited prognosis** (days to short years) due to advanced age, frailty, comorbidity and/or disease, where the goals of care are moving towards optimising symptoms and quality of life rather than prolonging survival.

NHS
The Leeds
Teaching Hospitals
NHS Trust

Table 1: Medicines Optimisation Tool

Drug or Drug Class	Prognosis Long Months to Short Years *Consider that the patients may wish to continue their medicines	Prognosis Weeks to Months *Consider that the patient may wish to continue their medicines	Prognosis Days *consider that the patient may wish to continue their medicines
PPIs / H_2 - receptor antagonists e.g lansoprazole, ranitidine	**Continue** if symptom benefit or history of GI bleeds PU, gastritis, GORD or concomitant use of NSAIDs and steroids. Ensure lowest effective dose.		**Consider stopping** - unlikely to give symptom benefit.
Endocrine			
Oral hyperglycaemic agents **e.g.** metformin, sulfonylureas, thiazolidinediones, DPP-4 inhibitors. GLP-1 analogues, acarbose.	**Continue -** Aim for CBG target range **6 - 15mmol/L** (discuss with the patient), with a corresponding HbA1c **53 - 97** (mmol/mol). **Consider step by step reduction** working backwards from NICE guidelines. Diabetes UK Guidance towards EOL [7] Consider involving DSNs if there are issues or potential issues with control.	**Review** - Aim for blood glucose levels between **6 and 15 mmol/L** to avoid symptoms (discuss with the patient). Consider reducing or stopping particularly if losing weight and eating less). Diabetes UK Guidance towards EOL[7]	**Stop.** Check blood glucose if concerning hypo/hyperglycaemia symptoms. See Palliative Care intranet page; Managing diabetes at the end of life[8]
Insulin	**Continue** - Aim for CBG target range **6-15mmol/L**	**Continue** - consider long acting if possible	**Type 1 diabetes** pancreatitis or CF related

Medicines Optimisation Guidance for Adult Patients with a Limited Prognosis

- Stop unnecessary or harmful medicines through 'deprescribing'
- Review long term illness control and medication side-effects
- Start/continue medicines which could provide symptom benefit.

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Subcutaneous anticipatory medications

Analgesic

Antiemetic

Anti-secretory

Anxiolytic

Subcutaneous anticipatory medications

Analgesic
Antiemetic
Anti-secretory
Anxiolytic

Do not repeat within 30 minutes

Maximum 4 doses in 24 hours

5-10 ampoules

Breathlessness

Opioids

Morphine sulphate SC

Divide total daily dose of oral morphine by 2

Opioid naïve

1-2.5mg SC, 5-10mg/24hrs

Renal impairment eGFR <30mls/min

Oxycodone

- Divide total daily dose of oral oxycodone by 2
- Opioid naïve

  1-2mg SC, 5-10mg/24hrs

SC alfentanil

- Consider when eGFR <10mls/min
- Seek advice

Breathlessness

Benefit of combing opioid and benzodiazepine

CSCI Morphine 5-15mg

+

Midazolam 10-30mg /24hrs

Navigante AH, et al. Midazolam as adjunct therapy to morphine in the alleviation of severe dyspnea perception in patients with advanced cancer. JPSM 2006:38-47

Anxiolytic

Useful if fear/anxiety is the only feature

Midazolam SC

- 2.5-5mg (10-60 mg/24 hrs)

Onset action 5-10 mins

$t_{1/2}$ 1-4 hours

Loop diuretics

Furosemide CSCI

- PO = SC
- 50mg/5mls
- Max 200mg / 24hrs

1mg bumetanide = 40mg furosemide

Oxygen

O_2 is not consistently beneficial

– even in patients with hypoxic

Facial cooling may be as beneficial e.g. fan

Ekstrom MP et al. The management of chronic breathlessness in patients with advanced and terminal illness. BMJ 2015;350:27-30

Dying patient with an analgesic patch

DO NOT start a patch in the last days of life

Continue current patch strength and replace as usual

Supplement with

- PRN morphine sulphate or oxycodone
- Syringe driver if needed

Terminal agitation v delirium

Usually, multi-factorial in terminally ill

Reverse the ‘easily’ reversible

- Full bladder
- Position
- Pain
- Nicotine or alcohol withdrawal

Explanation to family

Anxiolytic

Useful if fear/anxiety is the only feature

Midazolam SC

- 2.5-5mg (10-60 mg/24 hrs)

Onset action 5-10 mins

$t_{1/2}$ 1-4 hours

Antipsychotic

If suspect delirium, or no response to anxiolytic

Haloperidol SC

500mcg-1.5mg (1-5 mg/24hrs)

Levomepromazine SC

12.5-25mg (12.5-100mg/24hrs) can be used for agitation and delirium at higher doses than for N&V

Noisy respiratory secretions

Prevalence 44% patients

Most common with lung or cerebral primaries

Noisy respiratory secretions

1. Assess the cause
2. Establish the impact
3. Provide explanation
4. Consider non-pharmacological measures
5. Consider a trial of medicine

Noisy respiratory secretions

Perceptions of families?

'the fluid scared me more than anything…I knew she must be in pain'

'I wasn't distressed, I'd heard people breathe a bit oddly near the end'

'I just thought thank goodness for that, it's near the end you know'

Wee BL et al. The sound of death rattle: are relatives distressed by hearing this sound?. Palliative medicine 2006:20(3);171-175.

Noisy respiratory secretions

1. Assess the cause
2. Establish the impact on the patient and those close to them
3. Provide explanation
4. Consider non-pharmacological measures
5. Consider a trial of medicine

Noisy respiratory secretions

No evidence to show that any intervention, be it pharmacological or non-pharmacological, was superior to placebo in the treatment of noisy breathing

Cochrane Review: Interventions for noisy breathing in patients near to death
(Published January 2008, reviewed April 2017)

Noisy respiratory secretions

Hyoscine butylbromide SC

20 mg (60-120 mg/24hrs)

Onset action 10 minutes

Duration action <2 hours

Non sedating

Dry mouth, urinary hesitancy, constipation

Anti-emetic

If on regular and it’s working continue as CSCI

Levomepromazine

2.5-6.25mg SC (6.25-25mg/24hrs)

Haloperidol

1.5mg SC (1-5mg/24hrs)

Renal Impairment

eGFR
<30mls/min

Consider lower doses

Do not repeat within **1 hour**

Midazolam 30 minutes

Maximum 4 doses in 24 hours

Food and drink

Food and drink

- Support the dying person to drink if they wish and are able to
- Offer frequent care of the mouth and lips
- Encourage people important to the dying person to help with mouth and lip care or giving drinks

Clinically assisted hydration

Benefits

May relieve distressing symptoms e.g. delirium, thirst

Clinically assisted hydration

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May relieve distressing symptoms e.g. delirium, thirst

Burdens

May increase peripheral and pulmonary oedema

‘Medicalise’ dying

No evidence will prolong life but may extend the dying process

Blood tests

Accepting renal may deteriorate further

Focus is on symptoms

Do you check potassium or not?

Cardiovascular implanted electronic devices

- Permanent pacemakers
- Implantable cardioverter defibrillators (ICDs)
- Cardiac resynchronisation therapy-defibrillator (CRT-D) device

ICD therapy before death

125 patients with devices

- 65 DNACPR
- 25 ICD deactivated 24-hrs before death

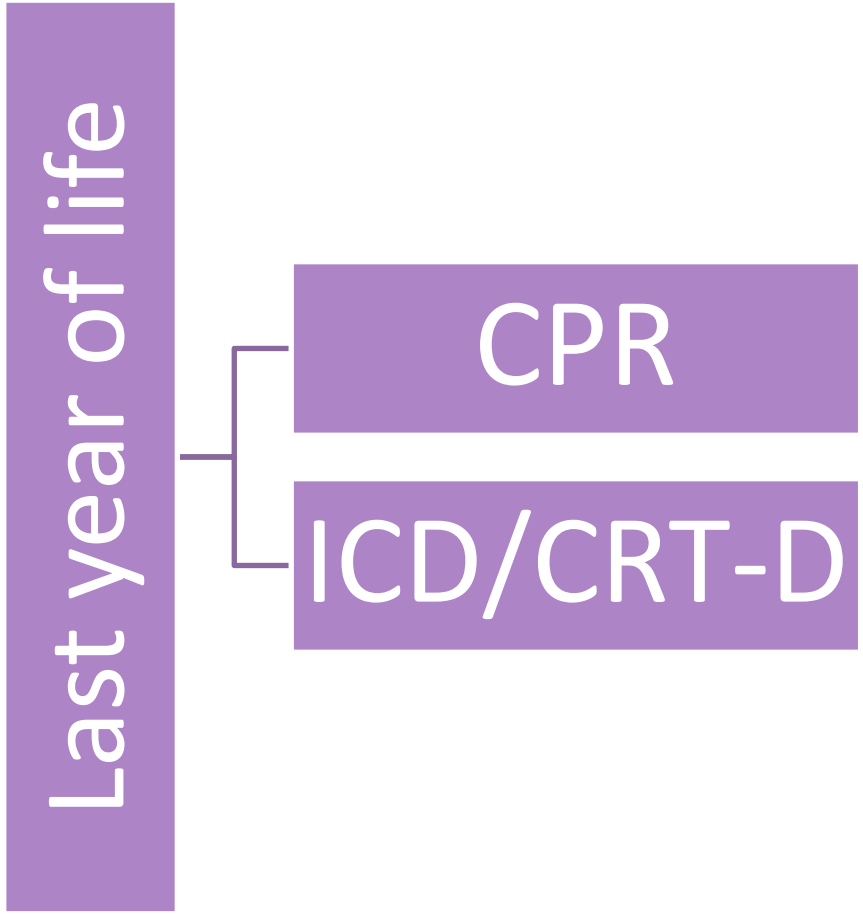
38 patients VF/VT in last 24-hrs

24 arrhythmic storm (>=3 episodes within 24hrs)

31 experienced 1 or more shocks

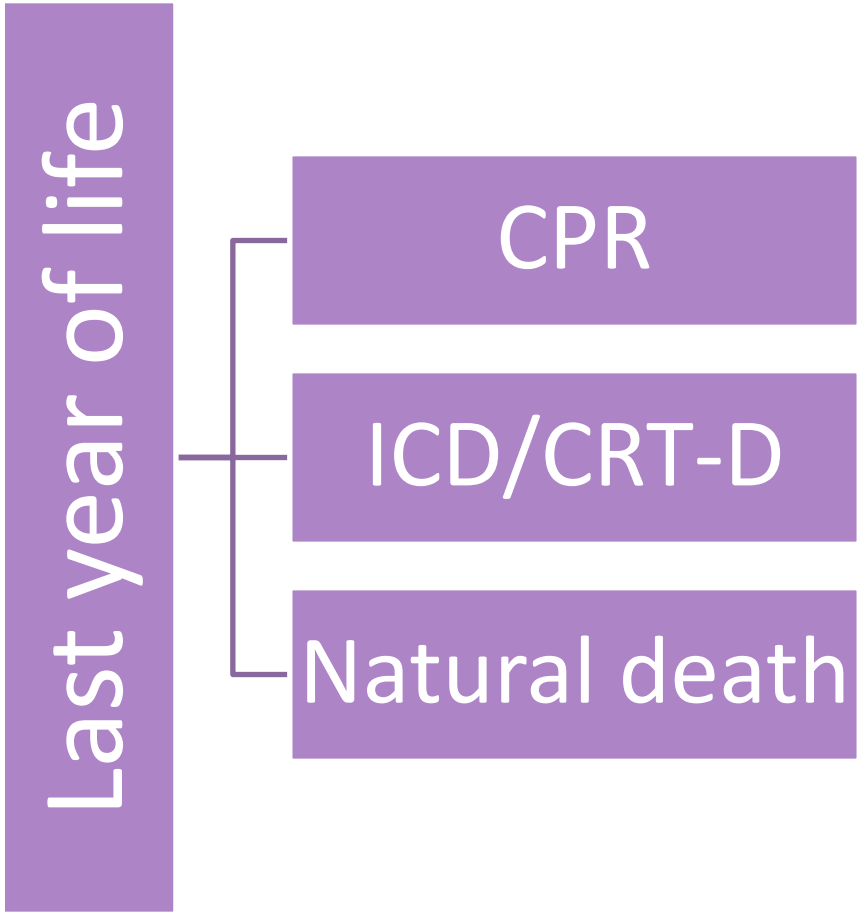
Westerdahl AK et al. Implantable CID therapy before death. Circulation 2014;129:422-9

Months…weeks…days



Resuscitation Council (UK), British Cardiovascular Society and National Council for Palliative Care (2015). Cardiovascular implanted electronic devices in people towards the end of life, during cardiopulmonary resuscitation and after death

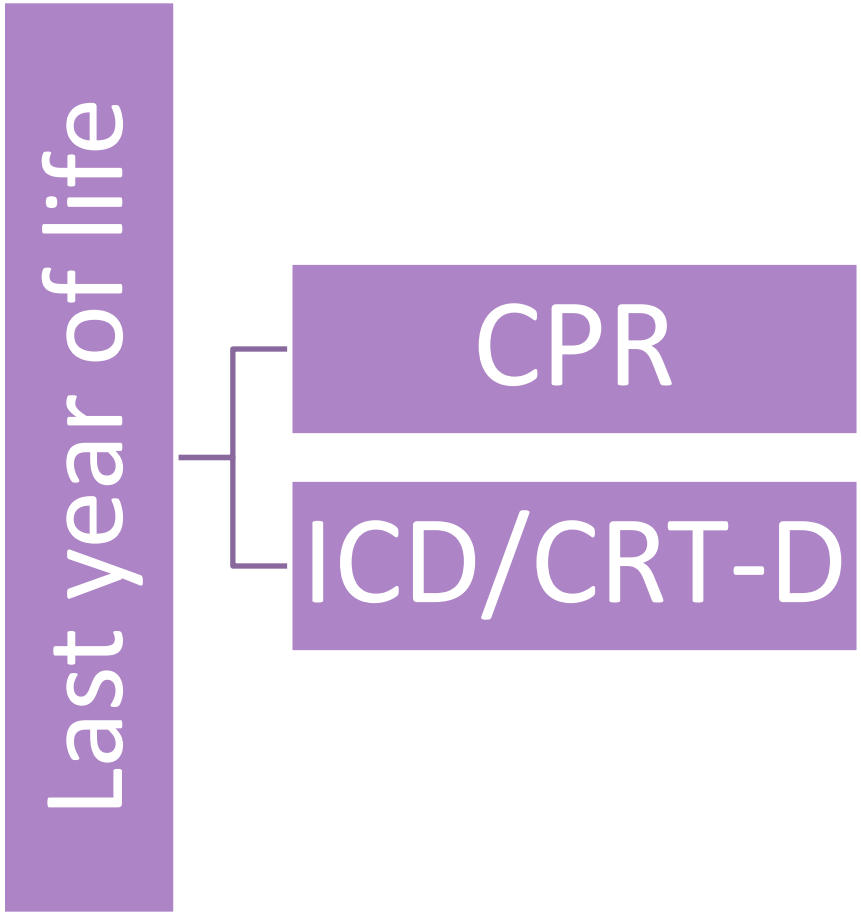
Months…weeks…days



CPR low chance of success if;

- Advanced progressive illness with no disease modifying treatment √
- Significant co-morbidities e.g. organ failure √
- Irreversible functional deterioration √

Months…**weeks…days**



Focus is control of symptoms not to prevent death

Discussions

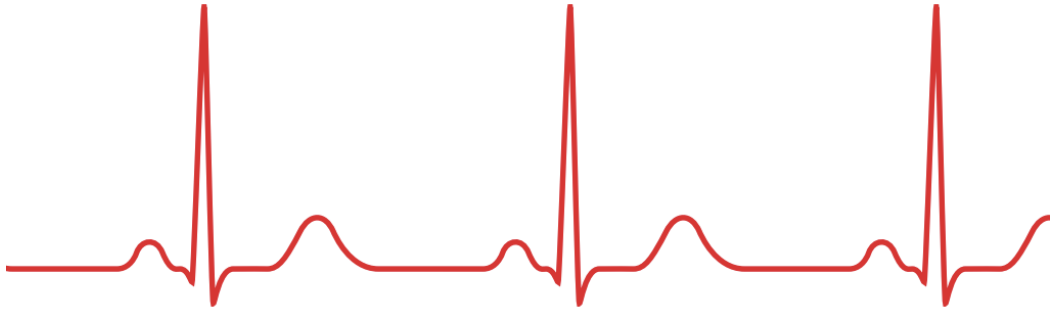
- Start with a broader conversation about what is important to them
- Discuss they will continue to receive all the care and support they need
- ICD deactivation is
  - painless
  - only discontinues the shock component of the ICD
  - does not cause or hasten death or any change in their general condition

Discussions

Choices must be respected and kept under review with the opportunity for decisions to be changed as the person's condition progresses

Deactivating the shock function of an implantable cardioverter defibrillator (ICD) towards the end of life

A guide for patients and carers



Arrhythmia Alliance
The Heart Rhythm Charity

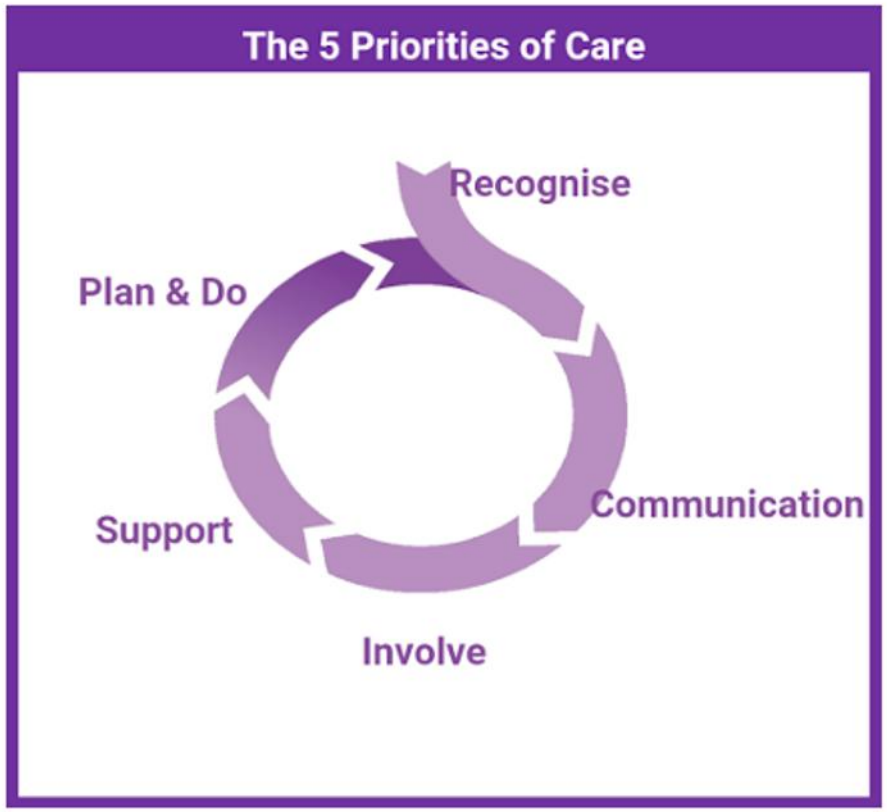
British Cardiovascular Society

Resuscitation Council UK

British Heart Foundation

The National Council for Palliative Care

Priorities of Care for the Dying Patient



Leeds Palliative Care Network

Symptom management guidelines for patients with advanced heart failure

Questions?

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Anticipatory syringe driver prescriptions

Guidance on prescribing drugs for anticipatory syringe pumps in adult palliative care patients in the last days of life in the community

Introduction

The aim of this guidance is to avoid a breakdown in symptom control in patients in the last days of life at home.

The guidance refers to prescribing drugs to be infused by syringe pumps as continuous subcutaneous infusions over 24 hours.

The guidance should be used in conjunction with guidance contained in the Leeds Community Healthcare NHS Trust Pathway for the Last Days of Life and the Yorkshire Cancer Network & North East Yorkshire and Humber Clinical Alliance Guide to Symptom Management in Palliative Care (version 5, 2012). Compatibility data is available in the Palliative Care Formulary or from pharmacy or Specialist Palliative Care Teams.

General principles

Ensure the patient's symptoms and drug requirements are reviewed at least daily

Common drug combinations

Analgesic	Sedative	Antisecretory	Anti-emetic
Morphine sulphate	Midazolam	Hysocine butylbromide	Levomepromazine

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Morphine sulphate	Midazolam		Metoclopramide
Oxycodone	Midazolam	Hysocine butylbromide	Levomepromazine

Diluent WFI