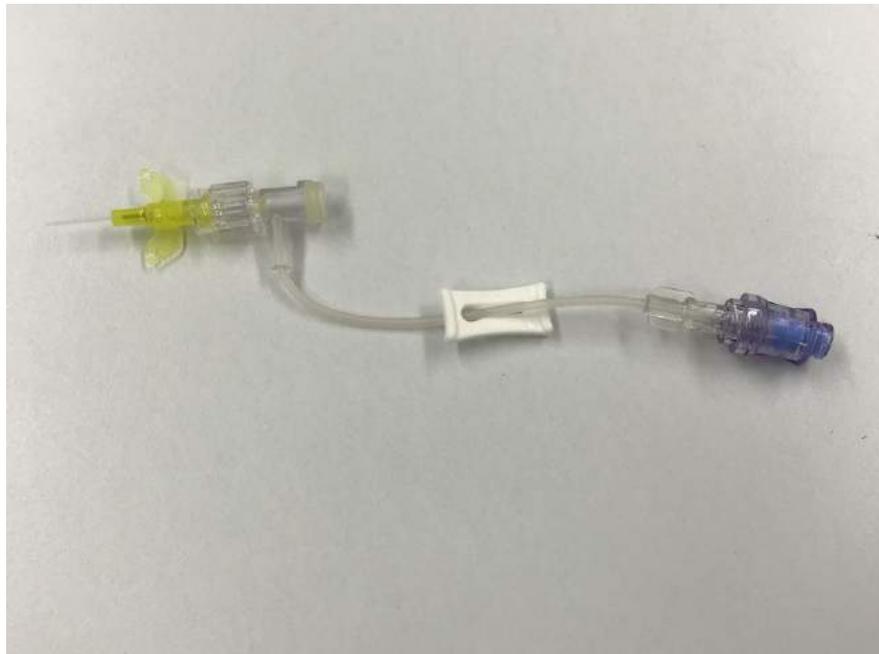


“JUST-IN-CASE” & SYRINGE DRIVER PRESCRIBING



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thebmj

**Gosport:
will justice
ever be
served?**

FIND YOUR NEXT JOB INSIDE

BMA votes to oppose Brexit p 6

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Carbohydrates' role in disease p 24

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1 CPD hour in the education section



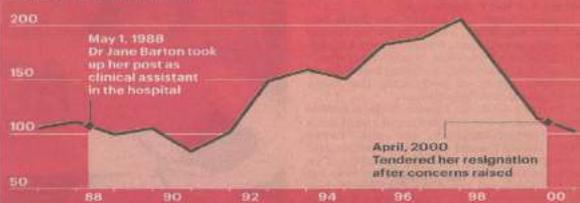


Reasons for administering diamorphine at Gosport



*No pain is made up of:
 16% No reason found, 35% Distress, agitation, restless
 10% Deterioration, 13% Unclear reason
 Source: Gosport Independent Panel

Number of deaths certified



May 1, 1988
 Dr Jane Barton took up her post as clinical assistant in the hospital

April, 2000
 Tendered her resignation after concerns raised

Warnings, restrictions and bans



Cheap, faulty and pumping death straight into the veins

In a police interview room in the market town of Fareham, near Portsmouth, two detective constables sat opposite Dr Jane Barton and turned on the tape. The date was April 6, 2006. Operation Rochester had begun. Barton had faced questions about her behaviour for years. Why did she prescribe toxic painkillers when her patients were not in pain? Why did she act in a "brusque and know-it-all way" when relatives asked why their loved ones had suddenly died?

Yet she had never been questioned like this. "Doctor, will you please give your full name and your date of birth?" "Jane Ann Barton," she replied. "19th October 1948." A red light flashed on, indicating another detective was listening in on the interview from outside.

Over the next hour the detectives interrogated Barton about a string of suspicious deaths that had occurred under her watch at Gosport War Memorial Hospital in the 1990s.

Specifically they asked questions about her use of Graseby syringe drivers – battery-operated pumps – a line of inquiry in the investigation that had been hidden until today's revelations in *The Sunday Times*. Apart from her name and

have led to the deaths of thousands of vulnerable patients.

Today a whistleblower has accused the panel of creating a "cover-up within a cover-up" by ignoring "awkward questions" about how Barton and her colleagues compounded the lethal risks to patients in their care by the use of these cheap and faulty devices. In *Explosive* claims, supported by a leaked cache of documents, the whistleblower says the government panel passed over evidence that asked questions not only about Gosport hospital, but about institutional failings across the NHS. It is the "cock-up or conspiracy" culture that the panel itself says protected Barton.

The accusations centre on the flawed Graseby MS 16A and MS 26 syringe drivers that were in use at Gosport and across the NHS at the time. The plastic devices were loaded with syringes and programmed to release drugs into a patient's bloodstream over a sustained period of

DOCTOR GAVE FATAL DOSES OF PAINKILLER

Jane Barton was responsible for the deaths of at least 456 and "probably"

Case Study

- Out-of-hours visit on Sunday afternoon
- 79 yr old man with pancreatic cancer
- GP very involved – had visited on Friday
- DNACPR form in house and clearly recorded PPD of home.
- Over last 2 days had become drowsy, not eating or drinking, unable to get out of bed, not managing his oral medications
- For last 3 hours appeared distressed and agitated, upper airway respiratory secretions.
- Wife, son and daughter at home with him, all increasingly anxious and distressed.
- No meds in house: GP had noted “to consider JIC next week”

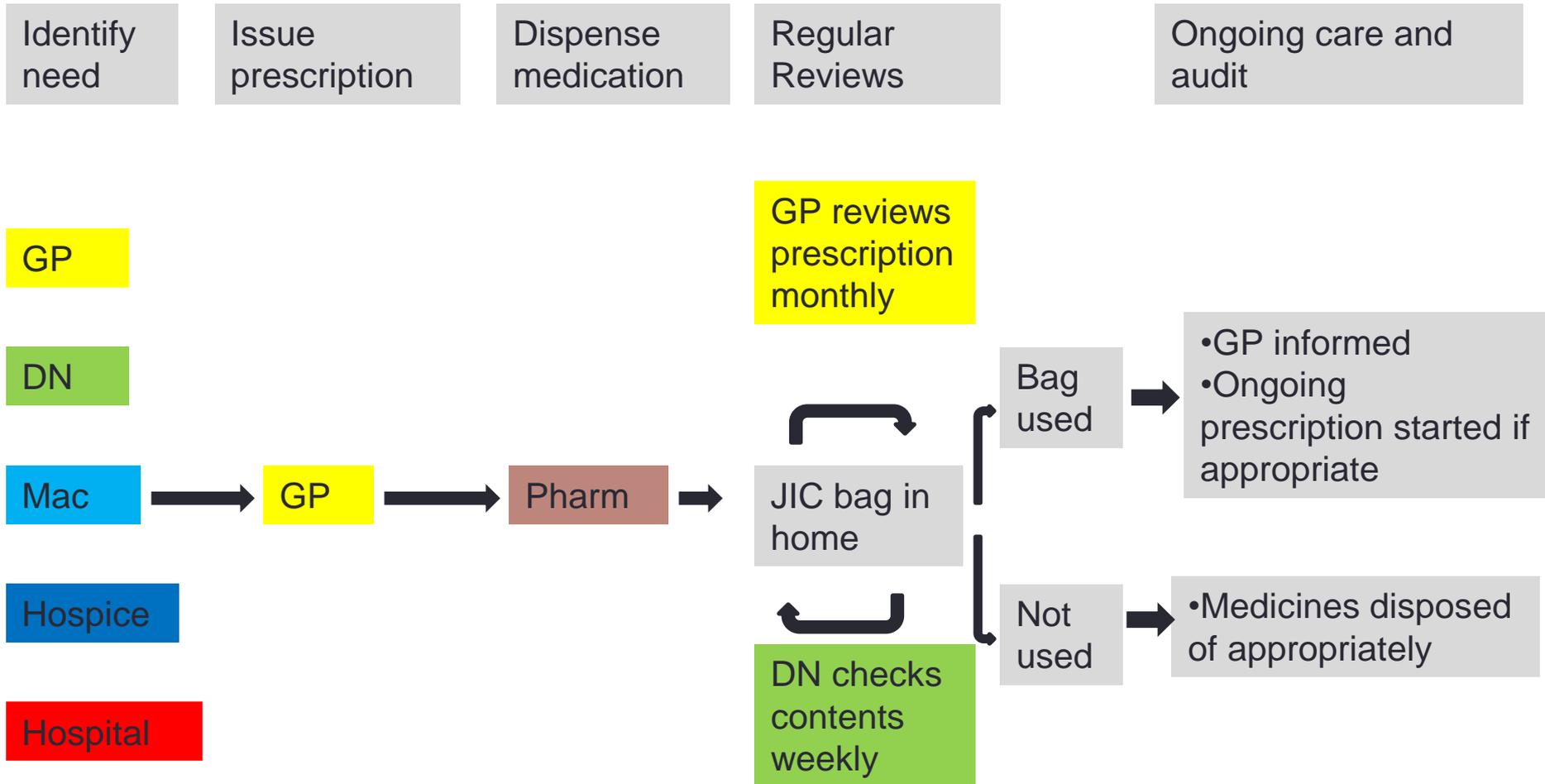
Management

- 2.5mg morphine SC stat, repeated after 20 mins
- Prescribed a syringe driver on community MAR chart
- Hand-written FP10s for syringe driver medications
- District Nurses called urgently to set up driver
- Son drove into Cambridge to collect medications
- Pharmacy did not stock strength of midazolam prescribed:
OOH doctor called to pharmacy to alter prescription
- District Nurses arrived at house, no meds available yet
- Syringe driver eventually set up 4 hours later
- Settled on driver and died late Sunday night

Background

- Many terminally ill patients wish to die at home, but hospital admissions in the final day days of life are common
- Patients have unpredictable and often rapidly progressing symptoms in the final days and hours of life
- Availability of palliative care medicines in the community, especially OOH, has the potential to reduce hospital admissions and optimise symptom control

Just-in-case bag process



Clinical Tips

- Prescribe early: the meds have a long shelf life
- Don't worry about cost: approx. £25
- Prescribe for all indications: pain, nausea, agitation, respiratory secretions
- Prescribe enough: at least 5 prn doses of each medication, or enough for 2x24h syringe drivers
- Don't forget patients with dementia and in care homes
- No "standard prescription"
- Personalise the prescription to patient, drugs and doses
- Write the community MAR chart at the same time as issuing the FP10s and liaise with DN team
- Avoid starting Fentanyl patches in final days of life
- Don't stop Fentanyl patches and try to convert to SD opioid
- If in doubt seek specialist advice

Example One

- **Prescribe JIC injectable opiate medication for:**
 - **A 73 year old man with metastatic prostate cancer**
 - **Normal renal function**
 - **Increasing difficulty taking oral meds**
 - **Currently taking:**
 - MST 30mg b.d. regularly**
 - 5ml of 10mg/5ml Oramorph prn, 1 to 2 times a day**

Example Two

- **Prescribe JIC injectable opiate medication for:**
 - **A 55 yr. old lady with metastatic ovarian cancer leading to obstructive renal failure (Creatinine 190, eGFR 45)**
 - **Finding oral meds difficult**
 - **Currently on:**
 - regular paracetamol 1000mg qds**
 - fentanyl patch 50mcg/hr**

JIC initial doses to consider and personalise

- **Morphine:** 2.5mg to 5mg SC 2-hourly prn for pain
 - Supply 5 (five) x 10mg/1ml amps
- **Midazolam:** 2.5 to 5mg SC 2-hourly prn for agitation
 - Supply 5 (five) x 10mg/2ml amps
- **Haloperidol:** 0.5 to 1.5 mg SC 4-hourly prn nausea/vomiting
 - Supply 5 x 5mg/1ml amps
- **Glycopyrronium:** 200mcg SC 4-hourly prn for secretions
 - Supply 5 x 600mcg/3ml amps
- **Lorazepam:** 0.5 to 1.0mg s/l 4-hourly prn for anxiety / SOB
 - Supply 14 x 1mg tabs

SYRINGE DRIVERS



When to Use a Syringe Driver?

- **Dysphagia / difficulty swallowing**
- **Nausea and vomiting**
- **Intestinal obstruction**
- **Malabsorption**
- **Weakness / dying / unconscious**

What to put in a Syringe Driver?

Indication	Commonly Used Drugs
Pain	Morphine, Oxycodone
Anxiety	Midazolam, Haloperidol
Terminal Agitation	Midazolam, Levomepromazine
Nausea/Vomiting	Haloperidol, Cyclizine, Metoclopramide, Levomepromazine
Bronchial secretions	Glycopyrronium, Hyoscine butylbromide
Intestinal colic	Hyoscine butylbromide

Six Questions to Consider

1. What are they taking by other routes already?
2. How well are symptoms currently controlled?
3. Are all the proposed drugs compatible?
4. What diluent am I going to use?
5. Will all the drugs fit in one driver?
6. Are they on a transdermal patch?

Example 3

- **78yr old lady with colorectal cancer and liver metastases**
- **40mg MST b.d.**
- **2 to 3 prn doses of 10mg Oramorph a day**
- **Haloperidol 1.5 mg nocte**
- **No other meds**
- **Now drowsy and difficulty swallowing, intermittently agitated and early death rattle**
- **What would you prescribe for her syringe driver?**
 - **Dose ranges?**
 - **PRN doses?**

Example 4

- **84 year old man with advanced heart failure**
- **Deteriorated over last two days, increasingly breathless, drowsy, minimal fluid intake, intermittently agitated**
- **On paracetamol 1 gram qds for arthritic hip pain**
- **Taking 0.5mg lorazepam s/l prn for SOB, 4 doses in last 24h**
- **Also takes bumetanide 2mg b.d, lisinopril 10mg o.d., bisoprolol 2.5mg o.d., aspirin 75mg o.d., omeprazole 20mg**

What would you put in his syringe driver?

- <http://book.pallcare.info/index.php>
 - syringe drivers
 - palliative care guidelines
 - Opioid dose conversions
 - Syringe driver compatibilities

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My Details

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 Doctor/Physician
 England - East of England
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Password:

You only need to log in if you are an editor or reviewer.

Opioid Dose Calculator

NB Conversion values may be updated at intervals; see below for values used in this calculator.

Select Conversion Values:

- "Traditional"
- "Progressive"

Convert From:

Enter total opioid intake in last 24hr:

- Regular opioid - mg/24h

- Stat. doses - mg/24h

- Transdermal Patch - µg/h

To:

- Regular opioid - mg/24h

4-hourly PRN: mg q4h

- OR -

- Transdermal Patch - µg/h

Consider reducing doses by up to 25-50% to account for incomplete cross-tolerance

All calculations must be confirmed before use. The authors make no claims of the accuracy of the information contained herein; and these suggested doses are not a substitute for clinical judgement. Please review the importance of correcting for incomplete cross-tolerance. Equianalgesic conversions should not be considered a simple straightforward calculation. Significant 'inter/intra' patient variability exists depending on the selected opiate, dosage level, and expected response

Incomplete cross-tolerance

Incomplete cross-tolerance relates to tolerance to a currently administered opiate that does not extend completely to other opioids. This will tend to lower the required dose of the second opioid. This incomplete cross-tolerance exists between all of the opioids and the estimated difference between any two opiates could vary widely. This points out the inherent dangers of using an equianalgesic table and the importance of viewing the tabulated data as approximations. Many experts recommend - depending on age and prior side effects - reducing the dose of the new opiate by up to 33-50% to account for this incomplete cross-tolerance. (Example: a patient is receiving 200mg of oral morphine daily (chronic dosing), however, because of side effects a switch is made to oral hydromorphone 25-35mg daily (this represents a 33-50% reduction in dose compared to the calculated 50mg conversion dose produced via the equianalgesic calculator). This new regimen can then be re-titrated to patient response. In all cases, repeated comprehensive assessments of pain are necessary in order to successfully control the pain while minimizing side-effects.

Conversion values

See the topic on [Opioid Conversion](#) for more details.

	"Traditional"		"Progressive"	
	Relative Potency to Oral Morphine	Equivalent Analgesic Dose	Relative Potency to Oral Morphine	Equivalent Analgesic Dose
Alfentanil 50 µg	100	100	100	100
Buprenorphine 3 µg	30	30	30	30
Buprenorphine 6 µg	60	60	60	60
Buprenorphine 12 µg	120	120	120	120
Buprenorphine 24 µg	240	240	240	240
Buprenorphine 48 µg	480	480	480	480
Buprenorphine 96 µg	960	960	960	960
Buprenorphine 192 µg	1920	1920	1920	1920
Buprenorphine 384 µg	3840	3840	3840	3840
Buprenorphine 768 µg	7680	7680	7680	7680
Buprenorphine 1536 µg	15360	15360	15360	15360
Buprenorphine 3072 µg	30720	30720	30720	30720
Buprenorphine 6144 µg	61440	61440	61440	61440
Buprenorphine 12288 µg	122880	122880	122880	122880
Buprenorphine 24576 µg	245760	245760	245760	245760
Buprenorphine 49152 µg	491520	491520	491520	491520
Buprenorphine 98304 µg	983040	983040	983040	983040
Buprenorphine 196608 µg	1966080	1966080	1966080	1966080
Buprenorphine 393216 µg	3932160	3932160	3932160	3932160
Buprenorphine 786432 µg	7864320	7864320	7864320	7864320
Buprenorphine 1572864 µg	15728640	15728640	15728640	15728640
Buprenorphine 3145728 µg	31457280	31457280	31457280	31457280
Buprenorphine 6291456 µg	62914560	62914560	62914560	62914560
Buprenorphine 12582912 µg	125829120	125829120	125829120	125829120
Buprenorphine 25165824 µg	251658240	251658240	251658240	251658240
Buprenorphine 50331648 µg	503316480	503316480	503316480	503316480
Buprenorphine 100663296 µg	1006632960	1006632960	1006632960	1006632960
Buprenorphine 201326592 µg	2013265920	2013265920	2013265920	2013265920
Buprenorphine 402653184 µg	4026531840	4026531840	4026531840	4026531840
Buprenorphine 805306368 µg	8053063680	8053063680	8053063680	8053063680
Buprenorphine 1610612736 µg	16106127360	16106127360	16106127360	16106127360
Buprenorphine 3221225472 µg	32212254720	32212254720	32212254720	32212254720
Buprenorphine 6442450944 µg	64424509440	64424509440	64424509440	64424509440
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Buprenorphine 51539607552 µg	515396075520	515396075520	515396075520	515396075520
Buprenorphine 103079215104 µg	1030792151040	1030792151040	1030792151040	1030792151040
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