STEROIDS: USE OF IN PALLIATIVE CARE PATIENTS
GUIDELINE ON MANAGEMENT

Scope of Guideline	For Registered Nurses, Clinical Nurse Specialists and Medical team, Pharmacist, Independent Prescribers
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Guideline Author	Dr Bethany Wright, Consultant In Palliative Medicine
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Appendices	1. Use of dexamethasone formulations at St Peter's Hospice. 2. Pathway for blood glucose monitoring for patients on steroids in an inpatient setting. 3. Pathway for blood glucose monitoring for patients on steroids in a community setting.

The current version can be found on SharePoint
Always refer to documents stored in Policies on SharePoint when applying policy and procedure.

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1. GUIDELINE STATEMENT:

This guideline is intended to promote the safe prescribing of corticosteroids (subsequently referred to as 'steroids') in patients with cancer. Steroids are one of the most common groups of drugs prescribed for patients seen by Specialist Palliative Care (SPC) teams[1] but have the potential for causing harm due to side effects.

2. RELATED INTERNAL HOSPICE POLICIES/PROCEDURES/DOCUMENTS:

- Adrenal Insufficiency and Risk of Adrenal Crisis Policy.
- Anticipatory prescribing (AP) of Just in Case (JiC) medication for symptom control in adult palliative care patients in last days of life: BNSSG quick reference guide.
- Diabetes Mellitus Management at the End of Life.
- Malignant spinal cord compression (MSCC): guideline for the management of patients under the care of St Peter's hospice.
- Medicines Management Policy and Guideline.
- Medicines Management Standard Operating Procedures.

3. SCOPE OF GUIDELINE:

This guideline relates to all patients under the care of the hospice (IPU, Day Hospice & Community) in whom steroids are considered. All clinical staff prescribing, administering or giving advice around medication are expected to be aware and adhere to this guideline.

Whilst this guideline outlines the principles of corticosteroid use in the hospice setting, it is not exhaustive and reference to the Palliative Care Formulary is also recommended for more detail.

4. KEY POINTS:

4.1 General principles

The following principles are embedded into the Corticosteroid template on EMIS, which should be completed when patients are started on steroids by SPH clinicians.

- Given the many and significant undesirable effects of corticosteroids and the potentially deleterious effect of rapid withdrawal, corticosteroids should be prescribed cautiously and the expected benefits and risks should be discussed with the patient.

- There should be a clear clinical indication for the steroid and review date, recorded in the notes via the EMIS corticosteroid template and on the drug chart, and the starting dose should follow local clinical guidelines for that indication.

- Corticosteroids should be given for a time-limited trial. A duration of 5-7 days is usually enough to assess response. The efficacy, dose and adverse effects should be reviewed at least weekly and instructions recorded clearly, in the notes (using the Corticosteroid template).

- In those with no response, corticosteroids should be stopped. In those who respond, wean to the lowest effective dose, review weekly, aim to get maintenance doses below 4 mg.

- Risk of adrenal insufficiency should be considered when steroids are initiated and a Steroid Emergency Card issued when appropriate (see Adrenal Insufficiency and Risk of Adrenal Crisis Policy).

- Monitor CBG (Capillary Blood Glucose) closely for hyperglycaemia in patients with diabetes (See Diabetes guideline). Patients taking ≥6mg of dexamethasone (or equivalent dose of prednisolone or hydrocortisone) should have a CBG check at least weekly[2]. For more guidance on frequency of blood glucose monitoring, please refer to Appendices 2-3.

- Patients at risk of adrenal crisis (see Adrenal Insufficiency And Risk Of Adrenal Crisis Policy) taking a daily oral prednisolone dose of <10mg should have the dose temporarily increased during significant intercurrent infection, trauma or surgery [3,4,5]. For further detail relating to sick day rules, see ai-and-exogenous-steroids_pis_final.pdf[5].

- Steroids should ideally be administered before 2pm to prevent sleep disturbance, preferably with or after food[6].

- Consider whether prophylaxis against osteoporosis (e.g. by calcium, vit D and oral bisphosphonates) is needed in patients on long-term steroids (>3 months) and/or a bone densitometry scan to assess risk[7].

- Remember the strength of dexamethasone can be increased by concomitant use of enzyme inducers (e.g. carbamazepine, phenobarbital, phenytoin) and reduced by inhibitors (e.g. itraconazole, aprepitant). Check the BNF or PCF for interactions.

- Before recommending steroids for patients receiving or due to start systemic anti-cancer treatment or immunotherapy, their specialist team should be consulted.

4.2 Indications and doses[1]

The list of 'off-label' indications for systemic corticosteroids in advanced cancer is not exhaustive and the doses stated are usual, but not prescriptive, starting doses. For further information see the Palliative Care Formulary.[1]

Indication	**Dexamethasone PO dose** (once daily or equivalent split bd dose)
Anorexia	2-4 mg
Fatigue	
Malignant bowel obstruction	4-8 mg
Nerve compression pain **Liver capsule pain** **Nausea**	
Lymphangitis carcinomatosis **Rapidly expanding bone mets** **Malignant spinal cord compression (MSCC)[7]**	8-16 mg
Superior vena cava obstruction **Large airway obstruction** **Intracerebral oedema**	

Subcutaneous administration:

Dexamethasone injection strength is 3.3mg/ml or 3.8mg/ml, depending on brand (See appendix 1). Oral bioavailability of dexamethasone is ~80%[8]. For pragmatic reasons a 4mg PO dose can be considered roughly equivalent to 3.3mg or 3.8mg SC, depending on which preparation is available. Dexamethasone has a long duration of action and can be given as a once or twice daily SC injection, if the volume of injection is 2ml or less. Alternatively for higher doses dexamethasone can be administered via a syringe pump. It is incompatible with most other drugs, so a second syringe pump is usually required.

Syringe pump site reactions can sometimes be reduced by adding dexamethasone to the solution if compatibility data permits. A dose of 660mcg = 0.2mL is recommended as being approximately equivalent to 1mg PO dexamethasone, as any smaller become difficult to accurately measure.
See also Appendix 1

Dose equivalence[1]

	Prednisolone (PO)	Dexamethasone (PO)
Approximate equivalent dose	5mg	0.5 -1mg
Anti-inflammatory potency	5	25-50
Oral bioavailability	75-85%	78%
Onset of action	No data	8-24 hours I.M.
Duration of action	12-36 hours	36-54 hours
Sodium retaining potency	0.25	<0.01
Daily dose above which adrenal suppression likely	7.5mg	1mg

Approximate equivalent anti-inflammatory doses of corticosteroids can be found in the Palliative Care Formulary[1]. Dexamethasone is 7 times more potent as an anti-inflammatory than prednisolone, i.e. 2mg dexamethasone is approximately equivalent to 15mg of prednisolone.

4.3 Adverse effects

Note, this is not an exhaustive list.

- Fluid and electrolyte disturbances (e.g. hypokalaemia), elevation of blood pressure, oedema
- Hyperglycaemia, increased appetite
- Oral candidiasis
- Glaucoma, increased intraocular pressure
- Increased susceptibility to infection, impaired wound healing
- Psychological disturbances – including insomnia, euphoria and depression
- Peptic ulcer with perforation, oesophageal ulceration (with concomitant NSAIDs or aspirin)
- Muscle and skin atrophy, bruising, proximal myopathy (typically proximal and after 3 months of dexamethasone >4mg daily although may occur sooner)
- Osteoporosis, avascular osteonecrosis

4.4 Cautions

4.4.1 Susceptibility to infection

Prolonged courses of steroids increase susceptibility to infections and their severity. Clinical presentation may be atypical; the signs of infection may be masked.

4.4.2 Steroid Emergency Card

If a patient is likely to be on corticosteroids for more than 3 weeks, they should be issued with a Steroid Emergency Card, warning against sudden cessation. For more detail around indications for issuing a Steroid Emergency Card, see Adrenal Insufficiency and Risk of Adrenal Crisis Policy.

4.4.3 Systemic anti-cancer treatment/immunotherapy and steroids

The impact of steroids on the efficacy of immunotherapy remains poorly understood but seems to depend not only on the dose but also on the therapeutic indication for steroids and the timing of their introduction with regard to initiation of immunotherapy. It is therefore recommended that the specialist team (usually oncology) are consulted before steroids are initiated on patients receiving or about to receive systemic immunotherapy or anti-cancer treatment.

4.4.4 Gastroduodenal protection

There is uncertainty about the need for gastroduodenal protection with use of corticosteroids. In a recent systematic review and meta-analysis, use of corticosteroids was associated with increased risk of gastrointestinal bleeding and perforation. However, this increased risk was limited to

hospitalized patients.[9] However, there is a 15 times increase in risk when corticosteroids are given concurrently with NSAIDs.

It is recommended that a proton pump inhibitor or H_2 antagonist should be prescribed for:

- all patients taking a combination of non-steroidal anti-inflammatory drugs and a corticosteroid[10, 11]
- patients with two or more of the following risk factors:
  - anticipated cumulative dose of corticosteroid equivalent to or greater than 140mg dexamethasone (e.g. dexamethasone 10mg OD for 14 days = cumulative dose 140mg)
  - previous history of peptic ulcer disease
  - advanced malignancy[12]

Gastroduodenal protection with corticosteroids should also be considered in patients

- with concurrent use of SSRI/SNRIs, antiplatelet drugs and anticoagulants.
- with a starting dose of dexamethasone of 8mg or more.

4.5 Reduction/Discontinuation[13,14, 15]

Symptom relief from dexamethasone reduces over time and undesirable effects increase. Thus, ideally the dose of dexamethasone should be reduced after one week and discontinued after 2-4 weeks. However, patients often experience recurrence of their symptoms as the dose of dexamethasone is decreased, thus it may be necessary to taper more slowly or continue a maintenance dose of dexamethasone indefinitely in some patients.

No clear evidence exists for specific tapering regimens, although in many patients' steroids should not be stopped abruptly[9] due to the risk of hypo-adrenal crisis. The following notes are therefore suggestions:

Abrupt withdrawal
Steroids may be stopped abruptly in those whose disease is unlikely to relapse AND have received treatment for <3 weeks AND are not in the groups below.

Gradual withdrawal
Gradual withdrawal of steroids is advised in patients who:

- Have received >3 weeks of treatment
- Have received dexamethasone 4-6mg (or equivalent) for > one week
- Have had a second dose in the evening
- Have received repeated treatments
- Are taking a short course within 1 year of stopping long-term treatment
- Have other possible causes of adrenal suppression

If a patient has taken dexamethasone for >3 weeks, reduction needs to be gradual and should be guided by whether the original indication is likely to relapse as steroids are reduced. If the latter is not likely to occur, suggest:

Dex >2mg daily – reduce dose by half every 3-5 days.
Dex < 2mg daily – reduce dose by 0.5mg every 5-7 days.

If relapse is a concern, reduce more slowly. If physiological stress occurs within 1 week of stopping the steroid, additional steroid cover should be prescribed to compensate for adrenal suppression.

4.6 At the end of life

If unable to take oral medications, consider the balance of benefits and burdens of subcutaneous injections versus possible steroid withdrawal reaction:

- If steroids have been essential in achieving good symptom control (e.g. headaches secondary to raised intracranial pressure) then the balance of benefits/burdens is more likely to be in favour of continuing steroids.

5. RESPONSIBILITY/ACCOUNTABILITY:

Ultimate Responsibility: Director of Patient Care/ Medical Director.

All health care professionals, who prescribe, administer or give advice about steroids should ensure they are aware of the content of these guidelines.

6. COMPLIANCE WITH STATUTORY REQUIREMENTS/REFERENCES:

References:

1. Palliative care formulary. Systemic corticosteroids section, last updated Nov 2024. Available online via Medicines Complete platform: MedicinesComplete — CONTENT > Palliative Care Formulary > Drug: Systemic corticosteroids. Accessed online July 2025.

2. Joint British Diabetes Societies Inpatient Care Group (2021) Management of hyperglycaemia and steroid (glucocorticoid) therapy. Available from: www.diabetes.org.uk.

3. British National Formulary, Adrenal insufficiency | Treatment summaries | BNF | NICE. Accessed online June 2025

4. British National Formulary. Section 6: Corticosteroids (systemic). London: BMJ Group and Pharmaceutical Press

5. Extracted from: Society for Endocrinology Steroid Emergency Card Working Group and Specialist Pharmacy Services guidance: Exogenous steroids, adrenal insufficiency and adrenal crisis-who is at risk and how should they be managed safely. March 2021. ai-and-exogenous-steroids_pis_final.pdf, accessed 18/06/25

6. NICE Clinical knowledge summaries: Prescribing dexamethasone. Last revised April 2025. Available at: Prescribing dexamethasone | Prescribing information | Palliative care - nausea and vomiting | CKS | NICE

7. Palliative care formulary. Bisphosphonates section: *Prevention of osteoporosis in patients receiving long-term corticosteroids (Box A).* Available online via Medicines Complete platform: https://www.medicinescomplete.com/#/content/palliative/bisphosphonates

8. Duggan D E et al (1975). Bioavailability of oral dexamethasone. Clinical Pharmacy and Therapeutics 18(2):205-209.

9. Narum S, Westergren T, Klemp M. Corticosteroids and risk of gastrointestinal bleeding:a systematic review and meta-analysis. *BMJ Open*. 2014;4(5):e004587. Published 2014 May 15. doi:10.1136/bmjopen-2013-004587

10. Piper JM, Ray WA, Daugherty JR, Griffin MR. Corticosteroid use and peptic ulcer disease: role of nonsteroidal anti-inflammatory drugs. Ann Intern Med 1991; 114:735.

11. Gabriel SE, Jaakkimainen L, Bombardier C. Risk for serious gastrointestinal complications related to use of nonsteroidal anti-inflammatory drugs. A meta-analysis. Ann Intern Med 1991; 115:787.

12. Ellershaw JE, Kelly MJ. Corticosteroids and peptic ulceration. Palliat Med 1994; 8(4): 313 – 319

13. CSM (committee on safety of medicines and medicines control agency) 1998: Withdrawal of systemic corticosteroids. Current problems in Pharmacovigilance. 24: 5-7

14. Margolin L. Cope DK. Bakst-Sisser R. Greenspan J. The steroid withdrawal syndrome: a review of the implications, etiology, and treatments. Journal of Pain & Symptom Management. 33(2):224-8, 2007

15. Simpson H et al. Guidance for the prevention and emergency management of adult patients with adrenal insufficiency, Clinical Medicine, Volume 20, Issue 4: 371-378, 2020. Available at: https://doi.org/10.7861/clinmed.2019-0324

7. EDUCATION & TRAINING:

Mandatory training as per agreed education plan which can be found on the education site of the intranet. Or follow the link here: Statutory Training

8. POLICY MONITORING AND REVIEW:

This guideline will be reviewed every 3 years or as required if there are changes in national guidance, evidence or legislation. Clinical audit should be performed to ensure the guidelines are being followed.

Appendix 1

Use of dexamethasone formulations at St Peter's Hospice

Oral (PO) tablets are formulated as dexamethasone *base* and injectable formulations as dexamethasone *phosphate or sodium phosphate*. St Peter's hospice recommends **all dosing advice and prescribing should now be expressed in terms of dexamethasone *base*** to avoid confusion caused by recent labelling formulation changes, different injection strengths and brands available.
The injectable formulations available now contain either 3.3mg/mL (Hospira or Hameln) or 3.8mg/mL (Aspen) dexamethasone *base*. **St Peter's hospice will be using the injectable formulation 3.3mg/mL.**

When parenteral use is necessary in palliative care, dexamethasone is usually given subcutaneously (SC) rather than intramuscularly/intravenously (IM/IV). Traditionally, for ease of prescribing, conversion of PO to SC/IV dexamethasone was made on a 1:1 basis (e.g. 4mg PO = 4mg SC/IV). Continuing with an exact 1:1 conversion will lead to unnecessarily complex and wasteful use of the ampoules and vials. Therefore St Peter's Hospice adopts the *PCF* recommendation that:

for pragmatic purposes, when converting between PO and SC/IV routes, both 3.3mg and 3.8mg **dexamethasone** *base* of the injectable formulations can be considered approximately equivalent to **dexamethasone** *base* 4mg PO.
the SC/IV dose prescribed should take into account which injectable formulation is being used so as to avoid wasteful use of the vials/ampoules (Table 1).
the dose should be subsequently titrated according to response.

Table 1 – Dexamethasone equivalent oral and subcutaneous doses

Dose of oral Dexamethasone prescribed (BASE)	Dose of Dexamethasone 3.3mg/mL injection prescribed (BASE)	Volume of Dexamethasone 3.3mg/mL injection administered (BASE)	
2mg	1.65mg	0.5 mL	Max stat dose is 2mL, so for higher volumes a syringe driver will be required
4mg	3.3mg	1mL	
6mg	4.95mg	1.5mL	
8mg	6.6mg	2 mL	
10mg	8.25mg	2.5mL	
12mg	9.9mg	3mL	
16mg	13.2mg	4mL	

When prescribing dexamethasone on the hospice inpatient unit, the PO and SC doses will need to be written as separate prescriptions, with the latter including strength and volume of injection (Table 2).

Table 2 Dexamethasone prescribing requirements

Drug	Dose	Route
Dexamethasone base	2mg	PO
Dexamethasone base (3.3mg/ml)	1.65mg (0.5ml)	SC

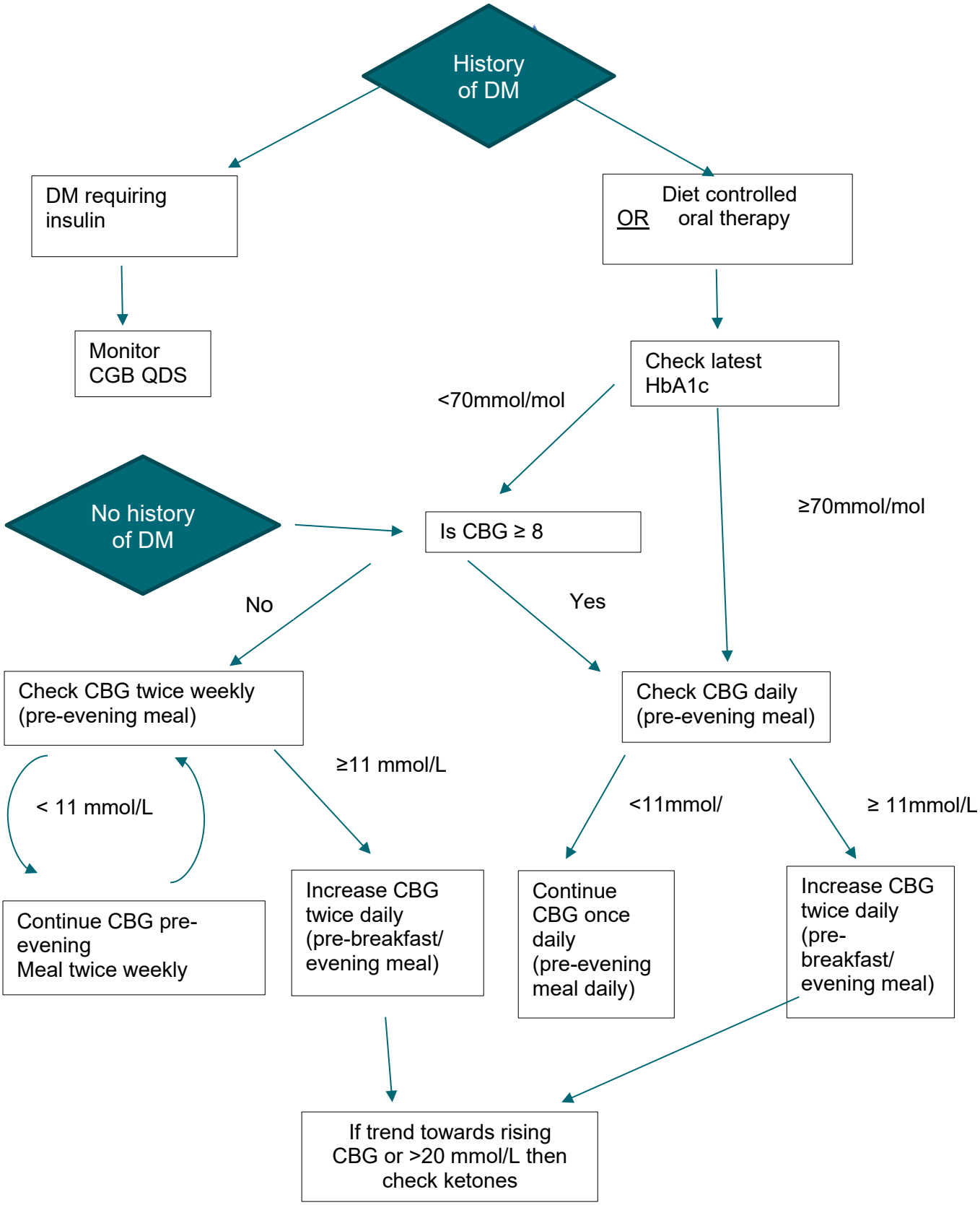
Syringe pump site reactions can sometimes be reduced by adding dexamethasone to the solution if compatibility data permits. A dose of 660mcg = 0.2mL is recommended as being approximately equivalent to 1mg PO dexamethasone, as any smaller become difficult to accurately measure.

Further details:

Palliative care formulary. Available online via Medicines Complete platform.
MHRA (2014) Dexamethasone 4mg/mL injection (Organon Laboratories Limited: reformulation with changes in name, concentration, storage conditions, and presentation. *Drug Safety Update.*
3. www.mhra.gov.uk/Safetyinformation
UK Medicines Information (2014) Dexamethasone injection. *In use product safety assessment report*. www.ukmi.nhs.uk.

Appendix 2

Pathway for blood glucose monitoring for patients on steroids
In an Inpatient setting



Once steroid stopped, return to baseline monitoring if CBG within normal parameters over 2 days

Appendix 3

Pathway for blood glucose monitoring for patients on steroids
In a Community setting

Key Points:

Patients with HbA1c>47 mmol/mol/ 6.5% qualify for provision of a glucometer.

Patients not requiring insulin do not require blood glucose monitoring if dexamethasone (or equivalent) is limited to a 1week course ≤4mg od.

The recommendations below are pragmatic in applying available national guidelines to care of patients in a community setting with a prognosis of less than one year.

For patients with a longer prognosis, stricter blood glucose monitoring may be appropriate.

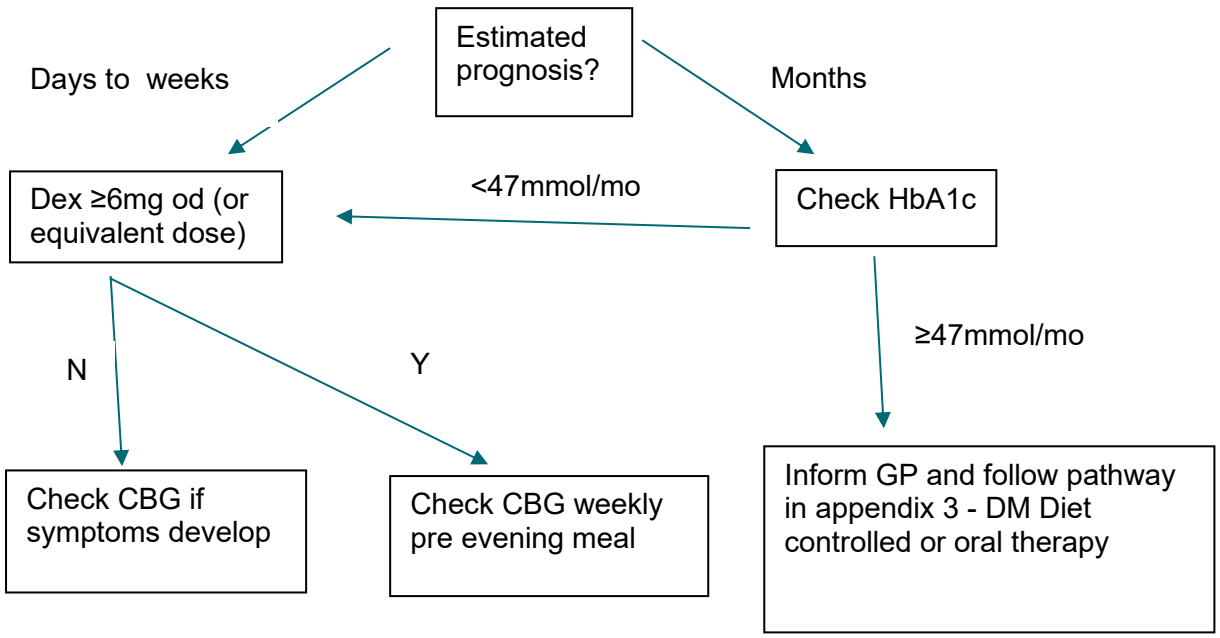
1. DIABETES REQUIRING INSULIN

- Monitor CBGs QDS.
- Once steroid stopped, return to baseline monitoring if CBG within normal range over 2 days.

2. NO HISTORY OF DIABETES

Request CBG if symptoms of hyperglycaemia develop or weekly whilst on dose of dex ≥6mg od or equivalent.

If prognosis likely to be months, also check HbA1c and follow DM diet controlled or oral therapy pathway if HbA1c>47 (i.e. implying diagnosis with DM).



3. DIABETES DIET CONTROLLED OR ORAL THERAPY