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Clinical guide during the COVID-19 pandemic for the management of patients with musculoskeletal and rheumatic conditions who are:

- already taking corticosteroids, or
- require initiation of oral/IV corticosteroids, or
- require an intra-articular or intra-muscular corticosteroid injection

This updated guidance aims to assist in shared decision making in the use of appropriate corticosteroids (new or ongoing and administered by any route) during the COVID-19 pandemic in patients with musculoskeletal (MSK) and rheumatic conditions. It is published in the context of phase 3 of the response to the COVID-19 pandemic and at the onset of a second wave. It relates to MSK service provision across primary, community and secondary care including rheumatology, orthopaedics and pain services.

It is applicable to adults and children. It reflects the potential problems that may be associated with corticosteroid use in the setting of COVID-19, while recognising the important role that appropriate and considered use of corticosteroids may have to treat patients where there are no alternative treatments.

It is supported by the following professional bodies: British Society for Rheumatology, British Association of Orthopaedics, British Association of Spinal Surgeons, Royal College of General Practitioners, British Society of Skeletal Radiologists, Faculty of Pain Medicine and Chartered Society of Physiotherapy

Summary

Corticosteroids (glucocorticoids, 'steroids') – oral and parenteral (intra-articular, intra-muscular and intra-venous) – can be an important and effective treatment for some MSK and rheumatic conditions, including many autoimmune and inflammatory conditions. Sometimes corticosteroids can be lifesaving. Stopping steroids suddenly can be dangerous, so patients who have taken oral steroids for more than four weeks are advised against abrupt cessation of oral corticosteroids and to discuss any concerns with their clinician.

Healthcare professionals should always consider alternatives to steroids where possible. If steroids are needed, the lowest possible dose should be used for the shortest possible time. Clinicians should only give steroid injections for severe symptoms, and where there are no other options. Corticosteroids (either oral or parenteral) should only be initiated following careful counselling of patients and shared decision making. Informed consent should be taken where appropriate, as per usual local guidance.

Current evidence suggests that children and young adults are thought to be at lower risk from coronavirus than older adults, even when on immunosuppressive medication including steroids. This document includes children, but it must be remembered that the advice is quite different for children and young people to that for adults.

Summary of key points

- **Don't abruptly stop current steroids**
- **Use the lowest possible dose of oral steroids for the shortest period of time**
- **Think before starting/using steroids in the current pandemic; the benefits must outweigh the risks**
- **Starting oral prednisolone at more than 5mg per day for more than a month could move an adult into the clinically extremely vulnerable (CEV) group**
- **Starting oral prednisolone at more than 20mg per day for more than a month will move an adult into the CEV group (NB: this does not apply to children and young people)**
- **Only give a steroid injection if a patient has significant disease activity and/or intrusive and persisting symptoms, and there are no appropriate alternatives**

Background

We continue to learn about COVID-19 and how it affects patients with different demographics and comorbidities, the effect of different pre-existing treatments and subsequent therapeutic options when a patient contracts COVID-19. In adults, disease registries and databases worldwide have confirmed that pre-existing corticosteroid treatment with over 10mg daily of prednisolone or equivalent increases the risk of hospitalisation and poorer outcome in adults who develop COVID-19 infection (1, 2).

However, the 'RECOVERY' trial has shown that in patients hospitalised with COVID-19, the addition of dexamethasone at admission resulted in a significantly lower 28-day mortality among those who were receiving either invasive mechanical ventilation or oxygen alone at randomisation but not among those receiving no respiratory support at randomisation (3). The effect of intra-articular or intramuscular steroid on the clinical course of COVID-19 is unknown.

Steroid route and indications

Oral prednisolone

Patients on long-term steroids should not suddenly stop their treatment. As per recommended practice, patients should be given a steroid card and should carry it with them.

When starting steroids in adults during the pandemic, use the lowest possible dose and then taper corticosteroid therapy according to clinical response and as fast as possible but remaining within the scope of current treatment guidelines.

The following are suggested maximum starting doses in different clinical scenarios:

- 15-20mg daily or equivalent for new inflammatory polyarthritis or polymyalgia rheumatica
- 60mg (1mg/kg) daily for giant cell arteritis (GCA) with visual involvement (such as transient visual loss or diplopia) and 40mg daily for GCA without visual complications
- 30mg daily for one week for gout or pseudogout flares where oral NSAIDs or colchicine are contraindicated, and intra-articular joint injection is not possible
- Higher doses of oral prednisolone should only be used on specialist advice, e.g. a higher dose of oral steroids may be required to manage an acute flare of severe autoimmune connective tissue disease or vasculitis where an organ is threatened. Urgent specialist advice should be sought in such cases
- Steroid use in children should only be initiated/dose adjusted by the paediatric and adolescent specialist service

Intramuscular injections

Only use intramuscular steroid to control a significant disease flare that is compromising a patient's ability to function, and consider using lower doses (suggested maximum recommended dose: 120mg methylprednisolone or equivalent).

Intra-articular injections (IAI) for inflammation

Only use for inflammatory joints where there is active synovitis ± effusion, no concomitant infection, and consider using the lowest clinically effective dose.

For children and young people with juvenile idiopathic arthritis, if a few or only one joint is affected, IAI may be used, and is likely to be safer than oral steroids. If multiple joints are affected, a DMARD or escalation of treatment should be considered.

For children and young people with juvenile idiopathic arthritis, if few or only one joint is affected, IAI may be used, and is likely to be safer than oral steroids. If multiple joints are affected then a DMARD or escalation of treatment should be considered. In young children, intra-articular injections may need to be administered under a general anaesthetic, which makes these 'aerosol generating procedures' for COVID-19 purposes.

When deciding on this treatment option, it's important to take into account factors including: (1) additional COVID-19 risks associated with this aerosol-generating procedure; (2) any practical issues for the child/family in receiving such injections at this time (e.g. a procedure requiring a general anaesthetic usually occurs in a 'green' or COVID-free pathway); and (3) if there are circumstances in the local healthcare setting preventing patients from securing suitably rapid access to the procedure.

Alternative options could include injection with local anaesthetic before steroid, other forms of sedation, a short course of systemic steroids, or escalation to an alternative systemic medication.

Intra-articular, peri-articular and soft tissue injections for MSK pain

Indication e.g. to treat osteoarthritis, shoulder pain, lateral hip pain, carpal tunnel syndrome, trigger digit and de Quervain's.

Recommend simple analgesia, activity modification, splinting where appropriate and exercise as first line.

Only consider a steroid injection if a patient has failed first line measures, has high levels of pain and disability, and continuation of symptoms will have a significant negative effect on their health and wellbeing.

Shared decision-making should be employed; the details discussed with the patient to reach a decision to inject should be recorded (such as in the clinical correspondence), and with at least verbal consent obtained.

Consider carefully the dose of steroid to be used, choosing the minimum appropriate dose.

Patients should be given guidance about activity modification and exercise therapy following an injection.

Injections for spinal radiculopathy

All appropriate and available non-invasive treatments should be explored and discussed with patients before injection treatments are considered.

Injections can be offered for severe radiculopathy and as an alternative to surgery. They should be assessed on an individual basis and a collaborative approach taken with other clinicians to guide prioritisation. Patients must be engaged with the process, fully aware of the risks and be able to give informed consent.

In such cases an epidural or targeted nerve root block can be performed with local anaesthetic only or with the lowest possible dose of steroid to be effective.

Patients should be given guidance about activity modification and exercise therapy following an injection.

Intravenous methyl prednisolone

IV methyl prednisolone should be reserved for those with clinically active disease and given on specialist advice only.

Patients in the CEV group and steroids: implications

Adults

- Starting a course of oral prednisolone lasting more than a month may put someone into the CEV group and their name should be added to the shielding list. The implications of this should be discussed with the patient
- Starting oral prednisolone at more than 20mg per day in an adult for more than a month will move a patient into the CEV group
- A one-off steroid injection for local action will not put someone into the CEV group
- A one-off intramuscular steroid injection will not put someone into the CEV group

Children and young people

The Royal College of Paediatrics and Child Health worked with many paediatric and adolescent specialty groups, including rheumatologists, to review the evidence to date.

They agreed that steroids did not put children and young people with rheumatological conditions into the CEV group and therefore they should NOT routinely be added to the shielding list (4).

Should injected corticosteroids still be used during the COVID-19 pandemic?

As per usual practice, individuals with active infections must not be injected with steroids.

A steroid injection is used in MSK services to control inflammatory joint disease, ease pain, increase mobility and improve quality of life. The duration of effect is variable but it can provide benefit for several months and in certain conditions (such as trigger digit) may provide long-term symptom resolution.

In some patients, the use of an injection can avoid the need for surgery or delay it for a substantial period, thereby reducing the risks of patients undergoing procedures at this time.

However, during the COVID-19 pandemic clinicians need to give extra consideration as to whether the benefits outweigh the risks. The incubation period for coronavirus can be long (up to 14 days) with an estimated median time of 5.1 days.

This means that giving a steroid injection to an asymptomatic patient who is carrying the virus could potentially put them at an increased risk of an adverse outcome from the virus, although it is not known that this is the case, and the level of any increased risk has not been quantified to date.

This potential risk therefore needs particular consideration in more clinically vulnerable patient groups, for example patients over the age of 70, adults belonging to BAME groups, those with diabetes mellitus, chronic respiratory disease and high BMI.

Particularly for patients in the CEV group for COVID-19, the benefits of receiving corticosteroids (orally or parenterally) must outweigh the risks for these patients. The potential risks must be explained to patients to allow an informed, shared decision to be reached regarding whether or not to proceed with steroid injection.

This includes attending a setting where higher levels of COVID-19 may be present, although the clinical area will be set up in a COVID-safe way. Provision of prior information to patients may enable these discussions.

To summarise:

An individual risk analysis should take place. Delivery of care should follow relevant national guidance and local delivery plans. If you're a non-prescribing clinician injecting under a patient group directive, you must follow local guidelines.

If you do decide to undertake injection therapy, you must:

1. Adhere strictly to your local infection control policies, including cleaning and use of personal protective equipment (PPE) as required.
2. Adhere to local policies on screening, testing etc. for patients to reduce the risk of COVID infection at the time of the injection.
3. Review if the procedure is still clinically indicated if patient has been on a waiting list for some time. The potential benefit must outweigh the risk.
4. Consider if you can reduce the dose of steroid or choose an alternative medicine to minimise the systemic effects of corticosteroid.
5. Ensure patients are fully aware of the potential increased risk and the lack of clear evidence related to risk during the COVID-19 pandemic. They must be engaged in decision-making.
6. Advise all patients to adhere to regular public health advice, e.g. regarding hand hygiene, social distancing and wearing a mask, to reduce risk of COVID infection.
7. Obtain and document informed consent as per local guidelines prior to proceeding with injection therapy.

References

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