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Many of us will have noticed how popular gabapentin and pregabalin are with some patients because of the gentle high they can induce. They’re increasingly given perioperatively in a bid to reduce opioid use and postoperative pain, although several meta-analyses have produced inconclusive results about their safety, efficacy, and opioid-sparing effect.

In this large cohort study of 237 872 matched pairs of adults aged over 65 (mean age 76 years), those given perioperative gabapentin on the day of major surgery, or for two days after major surgery, had a small but significantly increased risk of delirium (3.4% v 2.6%), new antipsychotic use (0.8% v 0.7%), and pneumonia (1.3% v 1.2%). There was no difference in hospital deaths between the two groups (0.3% v 0.2%). A serious caveat is that patients given gabapentin were generally healthier and more likely to have had elective rather than emergency surgery compared with non-users.

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The anti-clotting drug asundexian is an oral factor XIa inhibitor, which theoretically has the potential to prevent thrombosis without increasing bleeding and so might be useful in preventing further strokes in people who have had one already. Unfortunately, this phase 2b international trial (PACIFIC-Stroke) of 1808 people with non-cardioembolic ischaemic stroke (mean age 67 years) receiving dual or single antiplatelet therapy showed no impact on overt or MRI-detected further stroke in patients given placebo or asundexian 10 mg, 20 mg, or 50 mg (19-20%). The active drug was as safe (and as ineffective) as placebo. Post hoc analyses did suggest that the 50 mg dose reduced recurrent symptomatic ischaemic stroke and transient ischaemic attacks, so asundexian may yet find a role.

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Online yoga and Pilates classes have burgeoned during covid. This community based, randomised trial of 212 people with known osteoarthritis of the knee compared the effectiveness of an unsupervised, 12 week, online yoga programme (weekly pre-recorded videos to be performed three times a week and online information) with information only. The yoga group reported improved physical function at 12 weeks but not mean knee pain while walking. At 12 weeks, secondary outcomes such as knee stiffness and quality of life scores were better in the yoga group than in controls, but by 24 weeks any difference had disappeared. On the plus side, adverse events were few and far between. As doctors, we can certainly suggest yoga for those with bad knees, but commissioners are unlikely to be impressed by the evidence to date.

Do antisense drugs make sense in ALS?
Mutations in the antioxidant enzyme superoxide dismutase 1 (SOD1) are implicated in the neurodegenerative disease amyotrophic lateral sclerosis (ALS) or motor neurone disease. A small trial of 72 patients with ALS, over half of whom were predicted to experience rapid disease progression, found that treatment with tofersen, an antisense drug that reduces SOD1 protein synthesis, reduced concentrations of SOD1 in cerebrospinal fluid and of neurofilament light chain (a biomarker for neurodegenerative diseases) in plasma to a greater extent than placebo at 28 weeks, especially in the rapid progression group (−6.98 v −8.14), although there was no overall difference in function.

Combined analysis of the randomised part of the trial and a smaller extension to 52 weeks (in which patients who started tofersen at the start were compared with those who switched from placebo to the active drug at 28 weeks) showed no significant difference. Serious neurological events occurred in 7% of those receiving tofersen, and many reported more minor side effects from the lumbar punctures that were necessary for the analysis.

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FROM THE JOURNALS
Edited highlights of weekly research reviews

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Do antisense drugs make sense in ALS?
Looking visibly upset, then starts to cry. She pauses, when her partner leaves the room, you inquire further about her relationship dynamic and ask to see Samantha on her own.

Samantha, a 19 year old mother to a 7 month old boy, is well known to you. She has booked a telephone consultation, but hasn’t got long as she needs to get back home. She wants the subdermal implant you fitted one month ago removed, as she’s changed her mind and wishes to try for another baby. She agrees to the face-to-face appointment you offer and hangs up.

She arrives for the appointment with her 30 year old partner, Steven. Samantha appears withdrawn and Steven answers questions on her behalf. You feel uncomfortable about the relationship dynamic and ask to see Samantha on her own.

When her partner leaves the room, you inquire further about her wish to have her contraceptive implant removed. She pauses, looking visibly upset, then starts to cry.

This article offers an overview of reproductive coercion for clinicians. It focuses on reproductive coercion perpetrated against women who are heterosexual and cisgender (gender identity matching sex assigned at birth), although the discussion applies to any person who has female reproductive capacity.

**PRACTICE POINTER**

**How to recognise and respond to reproductive coercion**

Sam Rowlands, Rebecca Holdsworth, Annabel Sowemimo

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**WHAT YOU NEED TO KNOW**

- Reproductive coercion refers to actions taken by a person’s partner or family member to prevent or promote pregnancy, irrespective of the person’s wishes
- Steps taken to promote pregnancy without a sexual partner’s knowledge invalidate sexual consent in many countries, including the UK
- People exposed to reproductive coercion may resort to covert use of contraception
- Those at risk of reproductive coercion are often also at risk of intimate partner violence

**Examples of reproductive coercion behaviours**

<table>
<thead>
<tr>
<th>Pregnancy promoting/continuing</th>
<th>Pregnancy preventing/terminating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological pressure to conceive or to continue a pregnancy</td>
<td>Pressure or coercion of a woman to use contraception or to be sterilised</td>
</tr>
<tr>
<td>Threats of harming a woman or her children if she does not conceive or if she attempts to prevent conception</td>
<td>Emotional blackmail/threats or other coercion to force a woman to have a termination of pregnancy</td>
</tr>
<tr>
<td>Forced sex without use of contraception</td>
<td>Covert administration of abortifacient agents to a woman</td>
</tr>
<tr>
<td>Contraceptive sabotage: confiscating/tampering with/or forcibly removing/denying access to contraception</td>
<td>Physical violence to a woman with the intention of inducing a miscarriage</td>
</tr>
</tbody>
</table>

Reproductive coercion is any deliberate attempt to dictate a woman’s reproductive choices or interfere with her reproductive autonomy. It comprises a range of behaviours, from psychological pressure through to threats of (and actual) physical and sexual violence (table). These are all forms of abuse. Note that an abuser—also referred to as a perpetrator—may change behaviour between pregnancy promoting and pregnancy preventing. Clinicians are often in a unique position to identify those experiencing reproductive coercion and offer immediate and ongoing support. Although common, reproductive coercion can be subtle, and barriers may prevent the woman from seeking support.

**Coercive control**

Reproductive coercion typically takes place in the context of coercive control. Coercive control is when an abuser repeatedly behaves in a way that makes a person feel controlled, dependent, isolated, or afraid.

People under coercive control are making decisions under duress; their decision making autonomy about complying with or resisting the wishes of the abuser needs to be seen in this context. Those under coercive control may find it difficult to access healthcare because of intense surveillance of their whereabouts, activities, and communications by their abuser.

**Who are the abusers?**

Although abusers are most often intimate partners who are heterosexual, cisgender men, reproductive coercion can come in many guises. It can be perpetrated by cisgender women on cisgender men; and although few studies exist on reproductive coercion among LGBTQ+ people, it may still occur. It can come from the wider family and can also be carried out in the contexts of conflict, sex trafficking, and sexual exploitation.
How common is reproductive coercion?

Little documented evidence exists for reproductive coercion, although knowledge has increased in the past decade. A ComRes poll carried out for BBC Radio 4 of 1060 women between the ages of 18 and 44 living in all four nations of the UK in February 2022 found that half had experienced some form of reproductive coercion. In a formal study of the prevalence of reproductive coercion among cisgender women of reproductive age attending health services in the US, between 8% and 30% of women reported ever having experienced reproductive coercion. In an Australian sexual health clinic survey, 32% of heterosexual, cisgender women reported having experienced non-consensual condom removal (box 1, bmj.com).

In a large population based study in India, 12% of married women of reproductive age reported ever having experienced reproductive coercion from their current husband or their in-laws. Isolation and lockdown measures are likely to have resulted in an increased prevalence of reproductive coercion during the covid-19 pandemic, as was the case for several other forms of intimate partner violence.

Any woman can be subject to reproductive coercion. Groups that have been identified as potentially at higher risk—based on low quality evidence and our experience—are listed in box 2).

Box 2 | Women who may be at higher risk of reproductive coercion

- Women whose relationships with partner and/or family are subject to an imbalance of power or control. Control or coercion could be physical, psychological, sexual, or economic
- Women who have experienced domestic violence, intimate partner violence, or previous reproductive control
- Women who have engaged in transactional sex (exchange of sex for money or drugs)
- Women whose partner has other concurrent partners
- Younger women, particularly adolescents
- Women with mental health problems and/or learning disabilities
- Women who are socioeconomically disadvantaged
- Women who are unemployed
- Those who are socially isolated and have limited access to social support systems and community services
- Drug and/or alcohol users
- Those from racially marginalised backgrounds, especially migrants
- Those from cultural backgrounds that are patriarchal
- Women who do not speak the language of the country in which they are seeking medical help
- Women who attend frequently for emergency contraception or for pregnancy or sexually transmitted infection testing, including those who have low sexual self-efficacy
- Those who have unplanned pregnancies and/or are having more than one abortion; particularly aware of those who have coerced abortions as this can be seen in organised criminal activity
- Pregnant women who access healthcare after the first trimester or conceal pregnancies

Box 3 | Asking about reproductive coercion: examples of questions

If not pregnant

- Does your partner support your decisions about when or if you want to become pregnant?
- Is your partner supportive of your ongoing use of contraception?

If not trying to become pregnant

- Has your partner ever tried to get you pregnant, when you did not want to be pregnant?
- Has your partner ever interfered with the contraceptive method you were using?

If already pregnant

- Do you and your partner agree on what you should do about your pregnancy?
- Are you worried your partner will hurt you if you do not do what he wants regarding the pregnancy?
- Displaying educational posters in reception areas, toilets, and other highly visible areas alongside helpline numbers and safety cards can help raise awareness and empower women who are not yet ready to speak to healthcare professionals about their concerns

Isolation and lockdown measures are likely to have resulted in an increased prevalence of reproductive coercion during the pandemic

How does reproductive coercion present?

In addition to unintended pregnancy, reproductive coercion is associated with greater risk of sexually transmitted infections and with poorer mental health and psychological distress. Indicators of reproductive coercion include repeated requests for emergency contraception, pregnancy testing, sexually transmitted infection testing, and/or termination of pregnancy. Such resistance strategies represent important acts of agency by women but can easily be misinterpreted as poor health literacy or wasting health resources. Women experiencing reproductive coercion that goes beyond psychological pressure are more likely to request highly effective contraceptive methods: injectables, implants, intrauterine contraceptives, or sterilisation.

Australian studies show that cisgender women are more likely to disclose reproductive coercion at subsequent contacts, rather than at a first contact with a clinician, and it is typically not raised as a primary problem in consultations. Women with language or cultural barriers are further prevented from disclosure, particularly if a relative is asked to translate during a consultation. As with other forms of intimate partner violence, women who experience reproductive coercion may not recognise or acknowledge how abnormal their partner’s behaviour is, and feel that they cannot disclose because of the risk of serious repercussions. As well as violence towards the woman, such consequences can include withdrawal of finances, blocking access to friends and family, or harm to existing children.

Reproductive coercion often occurs concurrently with sexual violence in relationships. Women are far less likely to disclose sexual violence even when they have already disclosed physical or psychological abuse.

EDUCATION INTO PRACTICE

- What questions might you build into consultations to identify women who have experienced or are at risk of reproductive coercion?
- How could you use the ARCHES model in your practice or adapt a similar card that could be given routinely to women seeking contraceptive advice?
Discussing reproductive coercion in the consultation

Because reproductive coercion is so prevalent, a case can be made for educating all women about it, especially those of reproductive age. The ARCHES (addressing reproductive coercion in health settings) intervention, which includes offering an information card on reproductive coercion (supplementary file, bmj.com) and asking some of the example questions in box 3, may be a helpful way to introduce the subject during clinical encounters.

However, no validated screening tools exist for reproductive coercion. Questions tend to follow the approach of “sensitive inquiry” similar to that used when there are concerns about domestic violence.29 Questions need to be specific: only asking vague questions such as “how are things at home?” is, in our view, unlikely to lead to someone disclosing reproductive coercion.

See the patient alone for part of the consultation, to help facilitate disclosure or allow exploration of suspected reproductive coercion.30 Ask the partner, relative, friend, or other escort to wait outside, making it clear to them that this is routine.

Educating patients

ARCHES is a primary and secondary prevention intervention that has three main aims: to educate patients about how reproductive coercion and intimate partner violence can affect sexual and reproductive health; to suggest harm reduction strategies (for example, contraception support); and to provide supported referrals to services.31 It combines a small card with a one minute discussion.32 The healthcare worker gives patients two cards so they can pass one on to a friend to encourage discussion and support among women.33

Below is an adapted example of a script that can be used to briefly introduce the card during a consultation:

“I would like to give you a card that we have been giving to all women about healthy and unhealthy relationships. It has useful information about your reproductive choices and what to do if a partner or family member interferes with these choices. Many of our patients share how often this happens. We give a second card for you to pass on to a friend.”30

How to support women

When reproductive coercion is identified, recognise the woman as the expert in her own reproductive health.34 Ensure management and referral are person centred, trauma informed,35 and holistic.36 Care should promote a sense of safety, reduce anxiety, establish trust, and clarify available options. Encouraging women to assert their reproductive autonomy may well be limited by the controlling relationship they are in.36 Women may make the decision to stay in a relationship for more pragmatic reasons—for example, because of financial dependency or existing children. Seek to ensure that women do not feel judged.

Doing no harm is the prime consideration. Bear in mind that interventions, albeit well meaning, have the potential to have an undesired and negative impact on a woman’s life. An open, compassionate communication style is appreciated.37 Provision of information and support does not necessarily depend on disclosure.

This article may seem to underplay the role of interventions that include the person or family responsible for the reproductive coercion; this is partly because, as yet, no evidence base for these exists. In more complicated cases that involve family, a discussion with safeguarding leads with a more detailed risk assessment would likely be necessary before proposing any further intervention with the patient.

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Offering practical support

Offering women contraceptive choices, in particular concealable methods, is a major contribution that clinicians can make.38 Concealable contraception, such as intrauterine contraception (IUDs) with threads cut shorter, may be an option for some women. Consider referring these patients to specialist services for a more detailed discussion about the risks and benefits, since shortened threads may make device removal more difficult. Copper IUDs have the advantage that they do not eliminate or disrupt cycles for those whose partners monitor their periods. A progestogen-only injectable can be self-administered.39 Oral contraceptives can be transferred out of pharmacy packaging into, for example, a vitamin pill container. Emergency contraception can be supplied in advance of need.

Support and follow-up can be continued whether or not a woman discloses reproductive coercion. Patients may not disclose their concerns at the initial visit, so it may be helpful to plan follow-up to build rapport and trust, as women are more likely to disclose reproductive coercion after multiple encounters with a clinician.37

Other forms of support may include options for termination of pregnancy and ensuring that the woman has safe access to emergency contraception or checks for sexually transmitted infection as needed. Discuss details of local support groups or charities. By mentioning these resources and options, women gain knowledge that can enable them to use harm reduction strategies and improve their reproductive autonomy.

If offering referral to a domestic violence or sexual assault service, consider making a “warm” referral: this is where you, or an on-site advocate, offer to make a phone call to the service and give the patient the phone number for a named support worker.

When should reproductive coercion be reported?

The exact details of reporting reproductive coercion to safeguarding agencies or partner organisations depend on national laws and local guidance. Information will need to be shared with colleagues in most cases, especially with respect to minors and those who lack mental capacity, and where children are at risk.3 Reproductive coercion should be raised as a safeguarding concern with the adult/children’s safeguarding lead and this may require a referral to social services, particularly if children are involved, as it may suggest other forms of intimate partner violence. If there is an immediate danger to the patient’s life, any child’s life, or risk of harm to the public, discuss with the patient the urgent need for the healthcare professional to report reproductive coercion for their safety (at times this is not possible) before contacting the on-call safeguarding specialist while the patient is still in the consulting room. If possible, explain to the patient your concerns about the situation and seek their consent to disclose what they have told you. Sensitivity is required as many will be apprehensive of police and social service involvement. Patients from migrant backgrounds, for example, may be particularly anxious about revealing their immigration status.

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Long covid—an update for primary care

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This article updates and extends a previous BMJ Practice Pointer published in August 2020 when almost no peer reviewed research or evidence based guidance on the condition was available.1 In this update we outline how clinicians might respond to the questions that patients ask.

Definition

The term “long covid” refers to prolonged symptoms following infection with SARS-CoV-2 that are not explained by an alternative diagnosis. It embraces the National Institute for Health and Care Excellence (NICE)’s terms “ongoing symptomatic covid-19” (symptoms lasting 4-12 weeks) and “post covid-19 syndrome” (symptoms beyond 12 weeks),2 the US Centers for Disease Control and Prevention’s group of “post-covid conditions,”3 and the World Health Organization’s “post covid-19 condition.”4

Epidemiology

In mid-2022, approximately 70% of the UK adult population had been infected with SARS-CoV-2.6 Of these, almost 2 million report covid-19 symptoms persisting for more than four weeks; 807 000 (41% of all people with long covid) for more than a year; and 403 000 (19%) for more than two years.7 Based on workforce data from the British Medical Association,8 a full time equivalent general practitioner with an average list size (approximately 2000) has around 65 patients with long covid, 27 of whom will have been unwell for more than a year, and 12 for more than two years. Most general practices have far fewer patients with a long covid diagnostic code on their electronic health record9 for a combination of reasons, including lack of presentation, lack of recognition, and inadequate coding. These figures do not cover children, who are outside the scope of this article.

Rates of long covid are lower in people who are triple vaccinated, but prevalence of long covid (persistent symptoms at 12-16 weeks after laboratory confirmed SARS-CoV-2 infection) remains high at 5% for the delta variant and 4.2% for omicron BA.2.10

Symptoms and case definition

Long covid may be diagnosed late or not at all,11-13 so both generalists and specialists should be alert to it as a differential, while also being aware that patients can develop other persistent symptoms following acute covid-19 that are not necessarily caused by covid-19. Long covid is characterised by a constellation of general and organ specific symptoms, the commonest of which are summarised in the infographic. These multiple manifestations lead to difficulties with daily activities such as washing and dressing, low exercise tolerance, and impaired ability to work (either at all or partially), and result in reduced quality of life.14-19

Symptoms typically occur across multiple systems concurrently but sometimes one organ system (eg, cardiovascular) dominates. Phenotyping studies have identified several symptom clusters (table 1, bmj.com), with severe cases characterised by greater number and intensity of symptoms and greater functional impairment.3,15 Some patients’ long covid follows a fairly constant course, while others experience relapsing and remitting symptoms, sometimes with particular triggers.16

Fatigue—described by one patient as “like the most severe jet lag and hangover I’ve ever had”17—is the commonest symptom and may be associated with severe functional impairment; reduced exercise tolerance is also common. Some patients develop post-exertional malaise (PEM) or post-exertional symptom exacerbation (PESE),11 defined as worsening of symptoms following physical or mental exertion, typically 12 to 48 hours after activity and lasting days or (rarely) weeks.18 Long covid has evident (but under-researched) overlaps with chronic fatigue and myalgic encephalomyelitis.19 The box gives examples of patients’ accounts.
Patients’ accounts of long covid symptoms and accessing services, from research interviews with people with long covid

“I had an odd rash for quite a while; it kept coming and going … very itchy cough … very mild asthma … I started getting the odd headache again … pins and needles, feet going completely numb … all sorts of odd symptoms, I just kept putting it down to grief until a couple of months in, a friend said, ‘Look, do you think this could be covid?’”

“The fatigue is literally like hitting a wall. I can’t stay awake any more. It’s just like, wow, I have to go to bed.”

“I’d had 11 days of feeling great. And after [a particular] weekend I crashed again. And again it seemed to last for weeks of having these waves of symptoms: shortness of breath, diarrhoea, muscle aches, complete fatigue.”

“I think it [consultation with general practitioner] was a really positive experience and I felt really listened to, and she was able to be honest at that point and said I don’t really know what I can do to help you but you can phone me or email me at any point.”

“My last interaction with my GP was in June. I asked about my lungs, and he said, ‘What do you want me to do about it? You tell me. I have no idea.’ It felt very dismissive [. . .]. ‘Nothing’s got any evidence so, yeah sorry, I can’t help.’ I went back to work after five weeks still very unwell because nobody believed in long covid in May, they just didn’t believe it.”

Questions patients ask

Why did I get long covid, and what caused it?

Symptoms (especially fatigue) may persist after many infectious illnesses, including other coronaviruses such as SARS and MERS. But no clear explanation exists for why a particular individual develops long covid while another recovers quickly.

Long covid is more common in those who had more severe acute disease but may occur after mild or even asymptomatic disease. It is more common in people who were hospitalised, aged 35 to 69, female, living in deprived areas, working in healthcare, social care, or education, with high body mass index, and with more than one pre-existing, activity limiting health condition.

The underlying cause of long covid is not fully known, but several interacting mechanisms likely contribute. A chronic, low grade inflammatory response is correlated with the severity of ongoing symptoms in patients who were hospitalised. Some patients have evidence of multi-organ microvascular disease characterised by immunothrombosis and endothelial dysfunction, and some show an autoimmune response, where the body starts to recognise its own tissues and organs as foreign.

Some patients have covid induced neurological damage, particularly to the autonomic nervous system, which controls involuntary functions like heart rate. Being chronically ill and with unpredictable relapses may lead to loss of work, income, and social interaction, which in turn can lead to poor mental health.

What investigations should I have?

Long covid affects patients in different ways and to different degrees. Because a key component of care is investigating and managing risk factors and comorbidities, no standard protocol exists for assessment. Ideally, every patient should have an in-person consultation including a full history, clinical examination, and review of comorbidities and social circumstances.

What can my primary care team do for me?

Patients with long covid greatly value input from their primary care clinician. Notwithstanding prevailing uncertainties and the lack of definitive curative therapies, generalist clinicians can help patients considerably by

- Hearing the patient’s story and validating their experience
- Making the diagnosis of long covid (which does not have to be by exclusion) and excluding alternative diagnoses
- Providing holistic, relationship based care through continuity of care with a sympathetic clinician who knows the patient
- Conducting a full examination in a face-to-face appointment
- Encouraging self-management and directing to resources (see box, Resources for patients, bmj.com)
- Managing specific symptoms (table 1, bmj.com)
- Detecting and actioning “red flag” symptoms (infographic)
- Managing comorbidities (especially diabetes and cardiovascular disease and risk factors)
- Sharing the uncertainties of prognosis
- Helping set realistic goals for recovery (including pacing to avoid PESE)
- Considering referral to other members of the primary care team (eg, pharmacist, advanced clinical practitioner, community physiotherapist) or social support services as appropriate
- Monitoring progress
- Assessing mental wellbeing and managing depression and anxiety as needed
- Providing sickness certification
- Supporting self-advocacy (eg, with employer when returning to work)
- Entering the correct code for long covid on the electronic health record

All this takes time, and several consultations may be needed.

Being chronically ill and with unpredictable relapses may lead to loss of work, income, and social interaction, which in turn can lead to poor mental health.
For a substantial minority, ‘recovery’ currently means developing the ability to manage limited energy, continuing pain, cognitive limitations, and ongoing flare ups.

Do I need to see a specialist?
Many people with long covid can be managed effectively in primary care, but “red flag” symptoms (infographic) require urgent referral and action. Additionally, some patients—those with multiple severe symptoms (especially if both physical and mental health are affected), symptoms persisting after a severe acute illness (eg, a period in intensive care), atypical symptoms, profound functional impairment (eg, unable to work or attend college), and those needing confirmation that self-management or supported rehabilitation is safe and appropriate—benefit from specialist referral.

Ideally, this should occur in a dedicated “single point of entry” long covid clinic. These integrated clinics spanning primary and secondary care give patients access to additional investigations and other specialists (typically including respiratory medicine, cardiology, neurology, rehabilitation medicine, therapists, and psychologists). Not all localities have such services, and in their absence, a thorough history and clinical assessment should enable a referral to be made to the most appropriate secondary care service. Table 1 (bmj.com) and the infographic provide some indicators.

Because health services in many areas are currently very stretched, some patients may experience considerable delays even when their referral meets local criteria. Supportive care and symptom control from the primary care team may be helpful in the interim.

What if I’m not getting better?
Early research on management of post-acute covid-19 assumed (explicitly or implicitly) that patients would recover, albeit slowly. Long covid specialist services in the UK were designed around this assumption and focused on assessment, rehabilitation, occupational therapy, and psychological support. Thirty months into the pandemic, it is clear that this approach helps many but not all patients, and that for a substantial minority, “recovery” currently means developing the ability to manage limited energy, continuing pain, cognitive limitations, and ongoing flare ups in what has become a long term condition.

In addition to research to characterise persisting forms of long covid and test targeted therapies, models of integrated ongoing care more akin to those for other long term conditions such as diabetes, heart failure, or chronic pain are needed, including evaluating and costing the contribution of primary care to any such service. Community based interdisciplinary services and adequate support and training for healthcare professionals are needed to rapidly improve care and services for the growing numbers of people living with long covid.

Competing interests: TG is a member of Independent SAGE. MS is WHO Europe adviser on covid rehabilitation policy and led the development of the C19-YRS (Yorkshire Rehabilitation Scale) outcome measure for long covid. RE and TG are members of the NHS England Task Force for long covid.

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Find the full version with references at doi: 10.1136/bmj-2022-072117
Long covid produces a wide variety of general and organ specific symptoms. Some patients have profound functional impairment including difficulties with daily activities. This graphic gives a quick overview of what to look out for in primary care, and when to refer.

**History and examination**
Conduct a full examination in a face-to-face appointment. Factors to look out for include:
- Onset in or after January 2020
- Course may be constant or relapsing-remitting, perhaps with specific triggers
- Fatigue made worse by minor exertion
- Functional impairment - unable to do normal job or activities
- Red flag symptoms

**Investigations**
Guided by history and examination, for example:
- General or fatigue
- Full blood count
- Renal and liver function
- Thyroid stimulating hormone
- C-reactive protein
- Vitamin D
- HbA1c
- Cardiovascular
- Resting electrocardiogram
- N-terminal BNP
- NASA lean test

**What can primary care teams do?**
- Diagnosis
  - Hear the patient’s story
  - Diagnose and code “post covid-19 syndrome”
  - Assess for postural tachycardia
- Prognosis
  - Share uncertainties
  - Help set realistic goals
  - Monitor progress
  - Sickness certification
  - Support return to work
- Management
  - Whole person care and wellbeing
  - Manage symptoms and comorbidities
  - Encourage self-management

**Associated symptoms, such as:**
- Ear, nose, and throat
  - Tinnitus, poor hearing
  - Altered smell
  - Altered voice
- Respiratory
  - Breathlessness
  - Altered breathing pattern
- Neurocognitive
  - Impaired executive function
  - Sleep disturbance
  - Poor memory
  - Poor concentration
  - Headache
- Gastrointestinal
  - Reflux or regurgitation
  - Difficultly swallowing
  - Diarrhoea
- Cardiovascular
  - Microvascular angina
  - Dizziness
  - Tachycardia, especially on standing
- Gynaecological
  - Menstrual irregularity
  - Premature menopause

**Consider specialist service referral**
If no long covid clinic locally, consider for example:
- An acutely unwell and deteriorating patient requires urgent action
- Suspected pulmonary embolism or chronic lung damage
- Tinnitus, markedly altered voice
- Difficulty swallowing, chronic diarrhoea
- Cognitive dysfunction impairing ability to work

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* BNP = b-type natriuretic peptide
CASE REVIEW
Torticollis in a child with otalgia

A 2 year old girl attended the emergency department with a slowly progressive, 10 day history of right sided otalgia and reduced neck movement. Worsening fevers, irritability, and poor oral intake in the previous 24 hours prompted presentation to hospital. Medical and birth histories were unremarkable, and she was up to date with immunisations.

On examination, the child was conscious, aware of her surroundings, and crying inconsolably. She had torticollis, with the head flexed and turned to the left. Any active or passive attempts to move it towards the midline induced severe pain; instead, the patient was rotating her chest to look around the room. She was feverish with temperatures as high as 40°C, dehydrated, and lethargic. Her ear canals were occluded with cerumen. The oral cavity was erythematous with mild trismus and no visible mass.

Neck palpation was normal with no lymphadenopathy or signs of abscess. Her voice was normal. She did not have photophobia or vomiting, visual changes or deficit, and abnormal systemic or focal neurology. The table illustrates blood results obtained.

<table>
<thead>
<tr>
<th>Test</th>
<th>Result (reference range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatine protein</td>
<td>115 mg/L (0–6)</td>
</tr>
<tr>
<td>White cell count</td>
<td>13 × 10^9/L (5.4–13.8)</td>
</tr>
<tr>
<td>Neutrophil</td>
<td>7.5 × 10^9/L (1.50–8.50)</td>
</tr>
<tr>
<td>Lymphocyte</td>
<td>4.2 × 10^9/L (2.20–8.50)</td>
</tr>
<tr>
<td>Eosinophil</td>
<td>0.1 × 10^9/L (0.02–0.75)</td>
</tr>
<tr>
<td>MRSA, streptococcal Ab infection, covid-19</td>
<td>All negative</td>
</tr>
</tbody>
</table>

What are the differential diagnoses of torticollis?

1. Meningitis
2. Retained foreign body
3. Atlantoaxial subluxation
4. Lemierre’s syndrome
5. Grisel’s disease
6. Rheumatoid arthritis
7. Congenital anomalies
8. Post-surgical (such as adenoidectomy)
9. Idiopathic
10. Other medical conditions

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PATIENT OUTCOME
The child was afebrile and the left ear canal was free of cerumen. A diagnosis of acute mastoiditis was made and the child was referred to the otorhinolaryngology (ENT) department. Intravenous antibiotics should be given without delay if meningitis is suspected (with pneumococcal meningitis). Key management steps involve removing the occluding wax, otomicroscopy, and aural microsuction, pneumatic otoscopy, conventional radiography (anteroposterior and lateral views) should be first-line imaging. In cases of non-suspected meningitis, lumbar puncture may be considered if meningitis is suspected. Key investigations include computed tomography of the brain/cervical spine or magnetic resonance imaging in young children. Trismus suggests a possible diagnosis of acute anorectal abscess if present.

Parental consent obtained

Submitted by Celine Iswarya Partha Sarathi, Chloe Swords, and Jessica Bewick

You can record CPD points for reading any article. We suggest half an hour to read and reflect on each.

Articles with a “learning module” logo have a linked BMJ Learning module at http://learning.bmj.com.
Stroke in people with type 2 diabetes

In Denmark, time trends of ischaemic stroke in people with type 2 diabetes are showing a striking decline. Between 1996 and 2015, the incidence of stroke dropped by around 50%. The fall coincided with an increase in the use of prophylactic cardiovascular medications, especially statins (where the prevalence of use increased from 5% to 50%) and multiple antihypertensive drugs (where the prevalence of use increased from 18% to 33%) (Diabetes Care doi:10.2337/dc22-0440).

Antibiotic prophylaxis before dental procedures

Current UK guidelines advise against routine antibiotic prophylaxis for people with structural cardiac defects before invasive dental procedures (www.nice.org.uk/guidance/cg64). However, a case crossover study from the US reports a strong temporal association between infective endocarditis and dental procedures in the preceding four weeks among people at high risk. The risk was greatest for extractions and oral procedures in the preceding four weeks (www.nature.com/articles/d41586-022-0070983).

How to get a baby to sleep

An experimental approach to the age old problem of babies who cry and won’t go to sleep replicates what most parents find out from bitter experience. Observation

MINERVA

Multiple oropharyngeal ulcerations with acute myeloid leukaemia

These are multiple ulcers on the oropharynx of a 19 year old man with acute myeloid leukaemia. He presented to the emergency department with fever, nausea and vomiting, and a sore throat that had persisted for three weeks. He had experienced dysphagia, gum bleeding after brushing his teeth, dyspnoea on exertion, fatigue, and decreased appetite. On examination he had bilateral tender posterior auricular lymphadenopathy, mucosal pallor of the buccal region, multiple ulcers, and erythema of the oropharyngeal region. Blood test results showed a white blood cell count of 149.2×10⁹/L (reference range 4.8-10.8×10⁹/L; 79% abnormal immature white blood cells (blasts)), haemoglobin level of 97 g/L (reference range 135-175 g/L), and platelet count of 280×10⁹/L (reference range 130-370×10⁹/L). Bone marrow biopsy results indicated non-promyelocytic acute myeloid leukaemia. Oral ulcers associated with acute myeloid leukaemia might result from neutropenia or direct infiltration by leukaemic cells secondary to an immunocompromised state. Blood tests should be considered if treatment fails to resolve acute pharyngitis accompanied by systemic symptoms within one or two weeks. Clinicians should be alert to the systemic and oral manifestations of blood diseases, as early diagnosis provides an opportunity for timely referral.

The baby was more likely to stay asleep when laid down if asleep for at least five minutes beforehand and measurements of heart rate showed that crying was diminished by maternal carrying and by the reciprocal motion that crying was diminished by maternal carrying and by the reciprocal motion laid down if it had been asleep for at least five minutes beforehand (Curr Biol doi:10.1016/j.cub.2022.08.041). The baby was more likely to remain asleep when it was laid down if it had been asleep for at least five minutes beforehand (Curr Biol doi:10.1016/j.cub.2022.08.041).

Eat more fish

Livestock farming is responsible for a substantial proportion of global greenhouse gas emissions. Plant based diets are one alternative. Another, according to a recent survey, is a diet rich in seafood. Investigators evaluated the nutrient density of different foods against the emissions associated with their production. Farmed bivalves (eg, mussels and oysters) and wild caught, small fish (eg, anchovies, mackerel, and herring) had both a high nutritional value and a low carbon footprint (www.nature.com/articles/s41370-022-00476-z).

Aerosol transmission of infection

Many countries legislate to ensure the hygienic disposal of sewage, the supply of clean water, and the safe preparation of food. They have inspection systems in place and impose penalties when the rules are infringed. The SARS-CoV-2 pandemic has shown a need to manage the transmission of respiratory infections in the same way. Developing regulations to promote better ventilation and air filtration in public buildings would be one place to start (www.nature.com/articles/s41370-022-00476-z).

Psoriasis and infection

People with psoriasis have an increased risk of arthritis and cardiovascular disease. They may be at higher risk of infection too. Using national patient registries, 95 000 patients with psoriasis were matched for age and sex with population controls. The likelihood of acquiring an infection severe enough to require hospitalisation or hospital assessment was around 30% higher in people with psoriasis (BJD doi:10.1111/bjd.21595).

Multiple sclerosis in western Norway

A record linkage study from western Norway charts changes in mortality among people with multiple sclerosis over the past seven decades. Overall, the disease reduced median life expectancy by around 10 years. However, longevity has been gradually increasing, especially in the past 30 years, probably as a result of disease modifying drugs, better treatment of symptoms, and reduced diagnostic delay (J Neurol Neurosurg Psychiatry doi:10.1136/jnnp-2022-329169).

If you would like to write a Minerva picture case, please see our author guidelines at http://bit.ly/29HCBAI and submit online at http://bit.ly/29yyGSx