

# education

**FROM THE JOURNALS** Edited highlights of weekly research reviews on <https://bit.ly/2PLtl8>

## International preparedness for covid-19

The rapid spread of covid-19 has exposed strengths and weaknesses in operational readiness against health emergencies in different countries and the extent to which they implement International Health Regulations 2005 (the World Health Organization's blueprint for an appropriate global public health response to infectious disease). Alarming, there's only patchy information about national and regional preparedness, so this study used indirect International Health Regulation data to review the state of play and develop an operational readiness index. The index will help the WHO, governments, and international agencies to prioritise the 28% of countries that have a low capacity to prevent a public health event. On the plus side, according to this study, 50% of countries (mostly high and middle income countries) have adequate resources for emergencies.

• *Lancet* doi:10.1016/S0140-6736(20)30553-5



## News from Singapore

Singapore has been quick to act to try to contain local clusters of covid-19 through active case-finding among close contacts of affected people and surveillance of people with pneumonia, flu-like symptoms, or contact with unwell travellers who have returned from China. This study analysed three clusters and found that covid-19 is transmissible in community settings beyond household clusters and could have occurred before the lockdown in Wuhan and the stringent Chinese travel restrictions. Temperature screenings at airports would not have been effective in identifying the primary cases because most patients weren't febrile on arrival. Most of the cases in the three clusters were attributable to close physical contact (shaking hands, sharing meals, or serving customers in shops). The value of personal and hand hygiene is stressed by the authors.

• *Lancet* doi:10.1016/S0140-6736(20)30528-6

## No cure yet for covid-19

There's no specific, proven treatment yet for the severe form of illness caused by the SARS-CoV-2 virus. A randomised, controlled, open-label trial of 199 patients with severe symptoms of covid-19 (oxygen saturation  $\leq 94\%$  while they were breathing ambient air, or a ratio of the partial pressure of oxygen to the fraction of inspired oxygen of  $<300$  mmHg) compared the response to lopinavir-ritonavir plus standard

care for 14 days with standard care alone. There was no significant difference in the time taken for clinical improvement, discharge from hospital, or mortality at 28 days (19.2% vs 25.0%). Lopinavir is an antiretroviral drug used in the treatment of HIV infections, and it inhibits covid-19 in vitro; and ritonavir augments it by increasing its plasma half-life. So the combination may have worked, but it didn't. And in these febrile days of fake and unsubstantiated claims, this negative finding is important too.

• *N Engl J Med* doi:10.1056/NEJMoa2001282

## Predicting who will get worse

How can we predict which of our patients with covid-19 are most likely to develop acute respiratory distress syndrome (ARDS) and die? This cohort study of 201 patients in Wuhan with pneumonia as a result of confirmed covid-19 identified older age, neutrophilia, and organ and coagulation dysfunction as being risk factors for progression. Older people have impaired immune responses, and the other factors are the result of immune activation. So in that sense these findings are tautological and don't help us much. But the finding that methylprednisolone may be beneficial for patients who develop ARDS may be useful for clinicians.

• *JAMA Intern Med* doi:10.1001/jamainternmed.2020.0994

## Vulnerability of frail, older people in residential care homes

This study, published as a research letter, is the first description of critically ill patients infected with SARS-CoV-2 in the US. The 21 patients had a mean age of 70 years, many came from a single nursing home, 86% had comorbidities (such as chronic kidney disease and heart failure), and most presented with breathlessness (76%), fever (52%), and cough (48%). Twenty (95%) had an abnormal chest x ray, and 15 needed mechanical ventilation due to acute respiratory distress syndrome. Mortality was high at 67%, and only two of this cohort had made it home at the time of publication. Seven of the patients developed cardiomyopathy, which might be a direct result of the virus or a consequence of being so unwell. This cohort comes from a high risk, older group; these findings are not generalisable to the population at large, but do highlight the vulnerability of frail, older people, especially those in residential care homes.

• *JAMA* doi:10.1001/jama.2020.4326



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# Bowen's disease

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0.5 HOURS

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This is part of a series of occasional articles on common problems in primary care. *The BMJ* welcomes contributions from GPs.

**A 68 year old woman with skin type 1 presents with an 18 month history of a well circumscribed 10 mm erythematous scaly patch over her left shin. Since retirement, she has lived in Spain for part of the year and has now returned to the UK, and is worried that the patch has increased in size.**

In Bowen's disease the full thickness of the epidermis is dysplastic with atypical keratinocytes, but these have not yet breached the basement membrane to become a squamous cell carcinoma. Reflecting this, Bowen's disease is also commonly known as squamous cell carcinoma in situ and as intraepidermal or intraepithelial carcinoma. Historically, progression of Bowen's disease to squamous cell carcinoma was believed to be 3-5%.<sup>1</sup> However, a 2017 study suggested that it may be much higher, with 16.3% of 566 cases of biopsy-proven Bowen's disease found to have squamous cell carcinoma when treated surgically.<sup>2</sup>

This article outlines the assessment and management of Bowen's disease in a primary care setting. Rarer variants of Bowen's disease may present as pigmented plaques, nail dystrophy or discolouration, or patches and plaques in the genitalia, but this article focuses on the common presentation likely to be seen in primary care.

## WHAT YOU NEED TO KNOW

- Bowen's disease is a slow growing, precancerous dermatosis and a precursor to squamous cell carcinoma
- Multiple therapeutic options mean management can be individualised depending on the number, size, and site of lesions
- Prognosis is excellent with high cure rates

## HOW THIS ARTICLE WAS CREATED

We conducted a literature review of articles and guidelines, reviewed dermatology textbooks, and sought expert advice from general practitioners and consultant dermatologists regarding Bowen's disease.

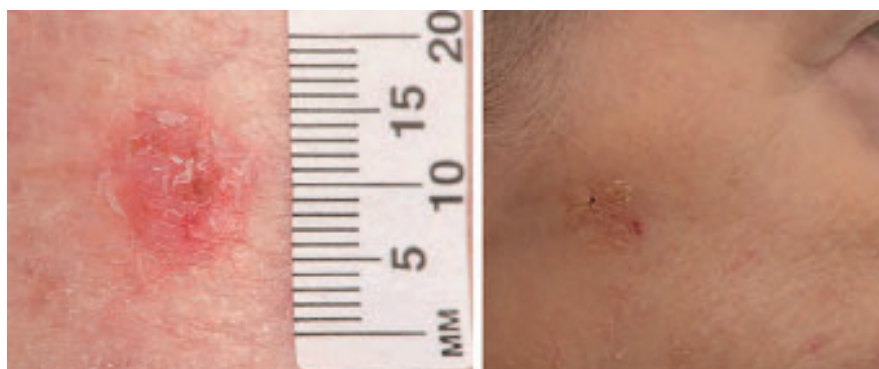


Fig 1 | Bowen's disease demonstrating (left) a 10 mm solitary, annular, well defined, erythematous, scaly patch on the shin; (right) an irregular, hyperkeratotic patch on the right side of face.

**3-16% of high risk lesions may have changes of squamous cell carcinoma present within them**

## What you should cover

The classic presentation of Bowen's disease is of an asymptomatic, well circumscribed, solitary, erythematous patch or plaque on a sun-exposed site (typically head, neck, or limb), usually 10-15 mm in diameter that has been slowly growing (fig 1). Longstanding lesions can attain more than 2 cm in size through lateral spread. The surface can be dry, scaly, hyperkeratotic, or fissured with irregular borders. Ulceration, bleeding, pain, or nodule formation should arouse suspicion of progression to squamous cell carcinoma.

## History

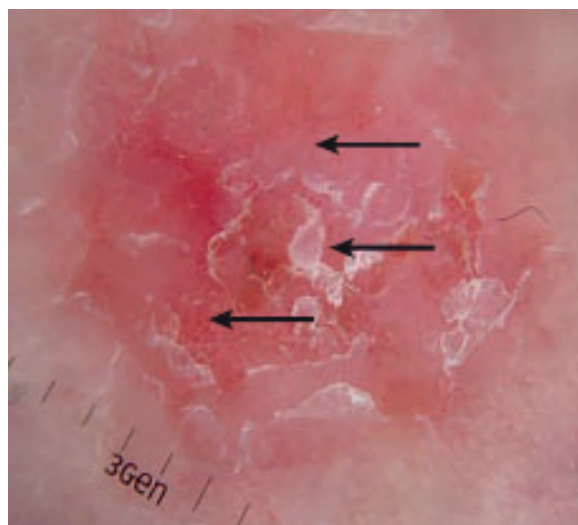
Most patients will be over 60 years old with skin type 1 or 2. The distal legs are more commonly affected in women than in men.<sup>3</sup> Other relevant risk factors include exposure to ultraviolet light (ultraviolet), immunosuppression, and carcinogens.

Ask about rate of growth. Bowen's disease will tend to grow slowly over months and years, whereas changes in a squamous cell carcinoma tend to occur over weeks and months.

Persistent itching may indicate an inflammatory process such as eczema or psoriasis. Ask about scalp or nail changes and any previous skin conditions as clues to other potential differentials.

## Examination

Best standard practice is to examine the whole skin surface (scalp, nails, and genitalia), but this may not be practical in a busy primary care setting. We recommend a focused skin examination on the lesion(s) and sun-exposed sites, with advice to the patient to self examine at home as appropriate.



**Fig 2** | Dermoscopic features of Bowen's disease are dotted and glomerular vessel appearance (bottom arrow), erythema and scale (middle arrow), with a structureless pink-white background (top arrow)

Note the patient's skin type. Skin types 1 and 2 (which burn more than tan after sun exposure) tend to be prone to developing chronic ultraviolet sun damage (with changes such as freckling, lentigines, or solar elastosis).

Site-specific examination includes:

- General condition of the skin. Is it dry or sun damaged? If the lesion is on the legs, is there evidence of varicose changes? These may indicate poor healing and influence treatment choices.
- The site, size, and colour of the lesion.
- Surface characteristics. Evidence or not of central clearing scale, crust, bleeding, lichenification. Features of edges: pearly or raised (may be suggestive of a basal cell carcinoma). Are there signs of excoriation?
- On palpation is there any tenderness or nodularity?

Where a teledermatology service is available, dermoscopic images may be sent for review by a dermatologist.<sup>4</sup> As keratinocyte dysplasia is a spectrum, the dermoscopic features are to be combined with the clinical index of suspicion. The dermoscopic features are shown in figure 2.

#### Box 1 | When to refer

*High risk area*—Lesion on head and neck, nail, or genitalia

*High risk patient*—Immunocompromised or multiple skin cancers

*Poor response to treatment or recurrence*

*Diagnostic dilemma*

#### Box 2 | Secondary care treatment

*Imiquimod 5% cream*—Unlicensed use, if other treatment options unsuitable

*Photodynamic therapy*—For larger or multiple lesions on legs

*Mohs micrographic surgery*—For high risk sites (facial, digital, or penile lesions)

*Radiotherapy*—If surgery is unsuitable

## What you should do

Consider the differential diagnoses listed in figure 3. A clinical diagnosis of Bowen's disease can be made in primary care when an indolent, well demarcated, erythematous, scaly patch or plaque is detected on a sun-exposed site in a person with skin type 1 or 2. Ask for a second opinion if diagnostic doubt exists or arrange for a (punch) skin biopsy. If a confident diagnosis can be made, several treatment options are available in primary care. The choice will depend upon the number, site, size, and thickness of the lesions, other comorbidities, and patient preference.

When considering no treatment, explain that studies suggest that 3-16% of high risk lesions may have changes of squamous cell carcinoma present within them—high risk lesions are on the ear, nose, lip, or eyelid or have a diameter of over 10 mm.<sup>2</sup> Explain the various treatment options depending on the site and size of the lesion and the general health and circumstances of the patient. Healing and clearance rates vary with body site and general health. Offer general advice on ultraviolet protection and vitamin D supplementation.

### Treatment options

Consider observation and emollients for frail patients with multiple comorbidities and slowly progressive thin lesions, especially on body sites with poor wound healing (such as the distal legs).

**Cryotherapy**—Consider cryotherapy in low risk situations for patients with a solitary Bowen's lesion who prefer to avoid more time consuming topical treatment. It is simple, quick, and inexpensive. Our practice is to freeze the lesion with two freeze-thaw cycles of 10-15 seconds. Avoid cryotherapy on the distal legs as it increases the risk of ulceration. Other side effects include pain, blistering, and hypopigmented scarring. Clearance rates vary with clinician and treatment regimen.<sup>5</sup>

**5-fluorouracil**—Widely available in the UK, 5-fluorouracil 5% cream is licensed for use in Bowen's disease.<sup>1</sup> Typically, the cream is prescribed for twice daily use for three to four weeks. One large European study demonstrated around 83% clearance rates with a once daily regimen for one week and then twice daily for three weeks.<sup>5</sup> Offer counselling before prescribing 5-fluorouracil, as the side effects of erythema, soreness, and crusting may be bothersome, especially on the head and neck regions. Offer a patient information leaflet. Consider longer and lower frequency regimens for patients with distal leg Bowen's disease who are frail or have thin skin, to reduce the chances of ulcer formation. We start with twice weekly applications and increase the frequency every two weeks to every other night, then every day, and then twice a day. If bright erythema and soreness develop the frequency is reduced.

**Curettage and cautery** is one of the simplest, least expensive, safest, and most effective treatments.<sup>6</sup> Success is operator dependent with variable recurrence rates of



Diagnosis	Key features	Diagnosis	Key features
Squamous cell carcinoma	<ul style="list-style-type: none"> <li>• Rapidly growing, tender, hyperkeratotic, ulcerating lesion</li> <li>• Sun-exposed sites or sites of chronic ulceration</li> </ul>	Superficial basal cell carcinoma	<ul style="list-style-type: none"> <li>• Slightly scaly, irregular, shiny, erythematous plaque</li> <li>• Thin, translucent, rolled border, in contrast with Bowen's disease</li> <li>• Dermoscopy may show "arborising telangiectasia"</li> </ul>
Actinic keratosis	<ul style="list-style-type: none"> <li>• Discrete or confluent patches of erythema and scaling or hyperkeratosis</li> <li>• Predominantly on sun-exposed skin</li> </ul>	Plaque psoriasis	<ul style="list-style-type: none"> <li>• Well demarcated, multiple patches or plaques with scale on extensor surfaces</li> <li>• Check scalp, nails, and flexures for clues</li> <li>• Often a family history</li> </ul>
Discoid eczema	<ul style="list-style-type: none"> <li>• Excoriated patches</li> <li>• Usually on limbs</li> <li>• Bilateral and asymmetrical</li> <li>• Serous discharge if acute</li> </ul>	Tinea corporis	<ul style="list-style-type: none"> <li>• Red and inflamed with pustules if acute, or dry and scaly with central clearing when chronic</li> <li>• Look for nail changes, skin folds, and intertriginous areas for clues</li> </ul>
Lichen simplex	<ul style="list-style-type: none"> <li>• Dry, scaly, excoriated patches with follicular prominence</li> <li>• Often solitary and unilateral. Usually affecting patient's dominant side</li> <li>• Check back of scalp and neck, genitalia, wrists, forearms, and legs</li> </ul>	Lichen planus	<ul style="list-style-type: none"> <li>• Pruritic, purplish, polygonal, papules, plaques (the "5 Ps")</li> <li>• Check scalp for scarring alopecia, nails for dystrophy or pterygium, oral mucosa for Wickham's striae, and genitalia</li> <li>• Any recent medication changes? Such as NSAIDs, thiazide diuretics, antihypertensives</li> </ul>

Fig 3 | Differential diagnoses of an erythematous scaly patch or plaque and key features

between 2% and 20%.<sup>7</sup> In a comparative study, clearance rates three months after treatment were 93% for curettage and cautery, 87% for 5-fluorouracil, and 61% for cryotherapy.<sup>8</sup>

**Excision**—Consider excision for solitary plaques of ≤15 mm diameter. This is simple and effective if location, healing, and cosmesis are considered suitable. It offers the added potential benefits of requesting histology,

#### EDUCATION INTO PRACTICE

- How much of the skin do you examine when a patient presents with a skin lesion?
- When you last saw a patient with an evolving erythematous plaque, how did you explore the patient's risk of skin malignancy?

#### HOW PATIENTS WERE INVOLVED IN THE CREATION OF THIS ARTICLE

No patients were involved in the writing of this article.

discovering invasion, and achieving complete removal. Distal leg excisions may be associated with higher morbidity. Recurrence rates depend on excision margins and are reported to be 5% over one to five years.<sup>1</sup>

#### Follow-up and referral

Follow-up depends on treatment. For patients choosing topical therapy or cryotherapy, a four to six month follow-up is advisable to ensure clearance. Advise patients to return sooner if the lesion recurs or the site becomes lumpy, bleeds, or painful.

If treatment has not helped, ask the patient to explain how they used it. Understanding why a treatment wasn't used as prescribed can inform further treatment options. Reconsider the diagnosis if the treatments prescribed have not been effective. Box 1 summarises when to refer. Additional treatment options available in secondary care are outlined in box 2.

Competing interests: None declared.

Cite this as: *BMJ* 2020;368:m813

Find the full version with references at <http://dx.doi.org/10.1136/bmj.m813>

# Mobile messaging with patients

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**Communication has been transformed by the mobile phone. Today, mobile messaging is widely used across all age groups,<sup>1,2</sup> exceeding voice calls in people under 50.<sup>3</sup> Healthcare providers worldwide are increasingly adopting digital integrated management systems that include messaging functions. This practice pointer offers an overview of mobile messaging to communicate with patients and carers, and offers suggestions for how to introduce these systems.**

## Why mobile messaging?

Mobile messaging includes all forms of electronic communication that may be accessed on a mobile device (table 1). The public views mobile messaging as more convenient, time efficient, less intrusive, and less costly than voice calls.<sup>4</sup> Sixty nine per cent of consumers across all age groups want to be able to contact a business via text,<sup>5</sup> with several industries leading adoption of text messaging services with consumers, including retail,

banking, hospitality, education, and travel.<sup>6</sup> Within healthcare, patients generally see it as a useful addition to face-to-face encounters.<sup>7-10</sup> Meanwhile, doctors are also using digital communication channels, particularly for inter-professional communication.<sup>11</sup>

There is ongoing debate about whether mobile messaging in healthcare may widen health inequalities.<sup>12-13</sup> However, proponents see mobile messaging as an addition to existing ways of accessing healthcare, not a replacement. A 2017 study reported that nearly 40% of the UK GP practices used text messaging to communicate with patients, and the number of text messages sent is increasing.<sup>7</sup> In 2018 in Ireland, a survey indicated that, overall, 66% of GPs texted patients and 27% had a written policy for texting patients. Texting is used primarily one way, to send test results (71%), to advise the patient to phone the practice (52%), and as appointment reminders (43%).<sup>14</sup> Barriers to adopting this technology include concerns over privacy, confidentiality, funding, standards, and effect on workload and workflow.<sup>7-16</sup>

There is complex, varied, and mounting international evidence on the positive effects of mobile messaging for the promotion of healthy behaviour, medication adherence, and supporting management of long term conditions.<sup>17-22</sup> This is summarised in supplementary table 1 ([bmj.com](http://bmj.com)).



## WHAT YOU NEED TO KNOW

- Mobile messaging has the potential to support clinical practice and should be offered as an optional service
- Before engaging in mobile messaging with your patients, develop a policy that includes the scope of communication, roles, and expected response time
- Offer other communication channels to patients who choose to opt out of mobile messaging
- Document all communications in patients' electronic health records
- Engage a mobile messaging provider compliant with your country's data protection laws

**Table 1 | Types of mobile messaging**

Channels	Examples*
<b>Mobile messaging</b>	<b>Clinical communication platforms</b>
In the past, mobile messaging was defined by communication protocol (eg, SMS and MMS); however, this has dynamically evolved with the advent of social/general mobile messaging apps like WhatsApp, Viber, WeChat, etc, and health apps with chat based features. Thus, the lines between pure communications channels and platform features have become increasingly blurred. As a platform, or application, messages may be “pushed” to users from the central server and users are notified of the message received. As health related communications potentially contain sensitive health data, there are dedicated secure communication services developed specifically for this, with added security and features to comply with data protection regulation—eg, messages not being retained on routing servers etc	AccuRX (UK) (SMS) Clickatell (SMS and mobile app) Cortext Doc Halo OhMD QliqConnect TigerConnect (USA)
<b>Electronic health records (EHRs) and clinic management software</b>	<b>EHRs and mobile messaging</b>
Several EHRs now offer a suite of patient management applications, or services, including secure mobile messaging with patients. There are also third party providers designed to support clinic or patient management including health financial, administrative, and patient services—eg, bookings, medication reminders, and messaging. These often integrate with EHRs—eg, iPLATO Patient Care Messaging service is able to connect with EMIS Health, TPP SystmOne, and INPS Vision to provide patient messaging services. Healthcare groups or consortiums—eg, Kaiser Permanente, provide their own systems including EHRs and patient messaging portals	EMIS Health, INPS Vision, TPP SystmOne (myGP Messaging), Cerner (CareAware), EPIC—(MyChart) MEDITECH (Health Portal)
	<b>Clinic Management Services:</b> Cureatr (USA) DrDoctor (UK) iPLATO

\*The examples shown in this box are illustrative, and their naming does not imply an endorsement or evaluation by the authors

**Table 2 | Potential advantages and disadvantages of mobile messaging for patients and healthcare providers**

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Mobile messaging can reduce missed appointments and improve medication adherence and self-management of chronic diseases</li> <li>Health promotion and education delivered via mobile messages can reach a large number of people quickly, which is especially useful in large scale emergencies such as pandemics</li> <li>Provides a written record of communication, allowing patients and providers to re-access it as often as needed</li> <li>Potential to reduce costs by decreasing missed appointments, reduces the need for patients to visit the clinic, increases adherence to prescribed treatments, improves management of long term conditions</li> <li>Increased productivity, as answering messages becomes a self-contained, potentially automated task</li> <li>People with sensory disabilities can benefit—eg, by utilising text based communications if presenting with hearing disabilities, or “screen reading” assistive technology if the user has a visual impairment</li> <li>Mobile messaging may potentially provide access to medical care for people in remote areas,<sup>37</sup> allowing for direct communication between patients, healthcare providers, and specialists, including the exchange of images. As of 2018, 96% of the global population was covered by a 2G mobile network, and 90% had 3G network coverage<sup>38</sup></li> </ul>	<ul style="list-style-type: none"> <li>Concerns about privacy and handling of confidential information</li> <li>Security: a report on security breaches across industries revealed that healthcare became the most frequently attacked industry during 2015<sup>39</sup></li> <li>Setting up a secure messaging system may require upfront and regular maintenance costs, although several providers have released free of charge secure messaging applications—eg, AccuRX and OhMD (box 1)</li> <li>Physicians and organisations may not get reimbursed for electronic communication services.</li> <li>Written communication lacks the verbal and non-verbal cues that face-to-face encounters entails</li> <li>Mobile messaging may deepen the digital divide. In 2018, around 10% of the UK population were “internet non-users” (referred as individuals who never used the internet or did so more than three months ago)<sup>40</sup></li> </ul>

## Practical uses of mobile messaging

### Clinic or practice services

#### Appointment reminders

Automated text message services offer a practical and cost effective approach to improve attendance rates.<sup>19 23</sup> If the messaging system is linked to the clinic booking system it allows for a response to confirm or reschedule the appointment without creating additional workload for healthcare providers. Below (fig 1) is an example of a message:

Dear *Patient name*, please CONFIRM, reschedule, or cancel your appointment via web-link for date-time with *Provider/Clinic*.  
For any other issue please call *Phone number*.

#### Repeat prescriptions

Patients on long term medications with stable and well controlled conditions may opt to ask for repeat prescriptions by sending a mobile message.

#### Sharing information

Mobile messages are useful to communicate information, such as a change in opening hours, recall notifications for medical devices, or pharmaceutical products, and to provide instructions, for example, on how to take a new medicine, or the correct preparation before a test or procedure.<sup>24</sup>

### Self-management

#### Medication adherence

A meta-analysis of randomised clinical trials found that mobile messaging increases rates of medication adherence by 17.8%, approximately doubling the odds of adherence.<sup>25</sup> Bidirectional, personalised messages tailored to participants’ clinical needs and sent less frequently than daily are more effective.<sup>17</sup> Depending on the condition and medication(s), “tailored” messages may include the patient’s name, an uplifting quote, or condition related advice. The message may be worded as follows (fig 2)

Good morning *Patient name*, have you taken your medications this week?  
Please reply 1 if you have taken all; 2 if you have taken most; 3 if you have taken some; and 4 if you haven’t taken any.  
Have a good week ahead

#### Test results

Mobile messages may be a viable alternative to a consultation for reporting some test results,<sup>26</sup> particularly when results are normal, or tests are routine. When results are abnormal, physicians and patients alike favour a telephone call or a face-to-face meeting.<sup>27</sup> Patients generally prefer to receive test results via electronic means, although receiving abnormal results in this way may provoke anxiety.<sup>7 28</sup>



### Managing long term conditions

Mobile messaging may be used by patients to communicate results of self-monitoring for long term conditions with their healthcare providers—eg, blood glucose levels in people with diabetes or increased use of short acting bronchodilators in people with asthma.<sup>17-30</sup>

### Health promotion and education

Text messages (or SMS) have been used to encourage smoking cessation,<sup>31 32</sup> lifestyle modification to prevent type 2 diabetes,<sup>33</sup> increase uptake of vaccinations,<sup>34</sup> and increase participation in screening programmes.<sup>35</sup> They can also be used for patient education and provision of health information.<sup>36</sup>

## How to implement mobile messaging in practice

Before implementing a mobile messaging service, we recommend engaging with patients to consider their needs and preferences (box 1), carefully considering the advantages and disadvantages (table 2).

When introducing a mobile messaging service, ensure it complies with data protection laws, as these vary by country.

## Complying with privacy and confidentiality laws

Concerns about legal and ethical requirements for security and confidentiality of information are a major barrier to adoption of mobile messaging.<sup>15</sup> These laws are generally applied within the boundaries of the issuing country, although the European Union's General Data Protection Regulation (GDPR) covers personal data management of any EU citizen within or outside the EU.<sup>42 43</sup>

Under GDPR, health related data fall into the category of sensitive personal data (see box *Data protection related definitions*, bmj.com), and as such require a legal basis (eg, processing is within the public interest) and an additional condition (eg, processing is necessary for the purposes of occupational health, provision of healthcare, or public health and safety). Consent is not considered a legal requirement for personal data processing in healthcare,<sup>44 45</sup> and it is not necessary to obtain a patient's consent before introducing mobile messaging.

Competing interests: None declared.

Cite this as: *BMJ* 2020;368:m884

Find the full version with references at <http://dx.doi.org/10.1136/bmj.m884>

**When introducing a mobile messaging service, ensure it complies with data protection laws, as these vary by country**

### Box 1 | What patients need to know about mobile messaging with their healthcare provider

- Inform your healthcare provider if you are *not* comfortable using mobile messaging
- Your healthcare provider should give you clear instructions about what you should and should not communicate via mobile messaging and the expected response time
- Password protect your mobile device and consider changing your notification settings to “never show previews” of received messages on the locked screen (so you only get a notification that a message is received and not its content)
- Request information on your provider's data processing policy, and check they have guidelines in place to prevent or respond to a privacy breach and who has access to your messages



### SOURCES AND SELECTION CRITERIA

We searched PubMed, Cochrane library, and Google Scholar for original research and systematic reviews using the terms “text message,” “SMS,” “instant message,” “WhatsApp,” “mobile message,” and Google for relevant industry grey literature. We reviewed American Medical Association and NHS guidelines on electronic communications as well as relevant data protection laws.

### MOBILE MESSAGING ETIQUETTE

- Write using a clear, active voice, and use short sentences. Avoid jargon, abbreviations, or acronyms
- Carefully consider all possible (including improbable) interpretations/understandings of the message to avoid inadvertent double meaning or misunderstanding
- Write your messages with respect. Avoid anger, sarcasm, or criticism
- Avoid using all capital letters, as it represents shouting
- Avoid using exclamation marks and emojis or other graphic symbols
- Review your messages before sending, including spelling, grammar, and punctuation
- Sign off messages with your or your practice name
- Set up a routine autoreply to acknowledge receipt of messages and response time. Modify the autoreply function to notify patients of your absence, adding the covering physician's name and contact details
- Set aside some time in your daily routine to send and reply to messages. Advise your administrative staff to follow a similar routine as well

### EDUCATION INTO PRACTICE

- How could mobile messaging better support your patients' care and self-management?
- Are all relevant staff in your organisation trained to implement policies on mobile messaging?

### HOW PATIENTS WERE INVOLVED IN THE CREATION OF THIS ARTICLE

We asked 10 patients to evaluate their experience of using mobile messaging to communicate with their healthcare providers. Their feedback helped us shape the implementation guidelines. We also shared the manuscript with eight patients and incorporated some of their comments into improving our article. The contents of box 1 (What patients need to know about mobile messaging with their healthcare provider) were developed with patient feedback.

P

## Behave yourselves

Quarantine used to mean staying isolated for 40 days, often on a spice boat off the harbour of Venice. People are not very good at this on dry land. An exception may be academics, enthralled at the idea of being able to write papers in self-isolation, and it is amazing how quickly they can work under such conditions. “How to improve adherence with quarantine” (<https://www.medrxiv.org/content/10.1101/2020.03.17.20037408v1>) is a rapid preprint reviewing something the authors describe as a “vexed issue.” Fourteen studies out of 3163 papers made it into the analysis, and adherence to quarantine ranged from 0 up to 92.8%. So there are truly useless ways, and fairly useful ways. The latter don’t just involve the presence of uniformed officers: they also involve trust, good communication, and shared understanding.

The duration of quarantine following covid-19 is also a vexed issue. Studies show that viral shedding can continue for up to at least three weeks following the onset of infection, but most guidelines give a Get Out of Jail card to convalescents a week sooner. “Is a 14 day quarantine period optimal for effectively controlling coronavirus disease 2019 (COVID-19)?” asks a preprint from China (<https://www.medrxiv.org/content/10.1101/2020.03.15.20036533v1>) and (not surprisingly) answers no. In the course of the discussion, the authors also review length of incubation before symptoms, and interestingly conclude that it is probably longest (median nine days) in those who acquire the virus from shared meals.



## Kids with covid

Children may well have been key vectors early in the Chinese epidemic. In Wuhan in January 2020, influenza was much commoner in hospitalised children than covid-19, but it is likely that a lot of the latter was missed (<https://www.medrxiv.org/content/10.1101/2020.03.16.20037176v1>). Dependable data are only available for three of Wuhan’s 400 or so hospitals, but by extrapolation the authors suggest that there may have been more than 1000 children admitted with covid-19 before the 23 January lockdown in the city. Tens of thousands more would have stayed at home or gone to school with negligible symptoms. “This highlights the urgent need for more robust surveillance to gauge the true extent and severity of covid-19 in all ages.” Yes. The mighty journal *Nature* agrees (<https://www.nature.com/articles/d41586-020-00822-x>).



## Testy mutterings

Over the past two weeks in the UK, everybody has been getting testy but nobody has been getting tested. With luck this will have changed by the time you read this. It has not been for lack of a range of possible testing products, mostly based on the conversion of viral RNA into DNA and its multiplication using polymerase chain reactions. You may remember

that back in early January a team had already constructed the entire SARS-CoV-2 particle, so there are lots of other bits and proteins that can be made the basis of viral detection kits. The predictive characteristics of these tests vary a lot, as shown by studies like one based on nucleocapsid and spike proteins (<https://www.medrxiv.org/content/10.1101/2020.03.17.20036954v1>). The idea of a “gold standard” test for this infection is likely to remain illusory. Remember this when you read about numbers of “confirmed” covid-19 cases. As a denominator to calculate the case-fatality rate, they are almost worse than useless.

For individual clinical diagnosis, however, viral detection tests (swab based) are very much better than useless. They have a reasonable positive predictive value, though this needs to be confirmed later by serological testing. It’s becoming clear that different people make different antibodies to SARS-CoV-2 at different stages (<https://www.medrxiv.org/content/10.1101/2020.03.18.20038059v1>). Standardised IgG based testing became simple and scalable weeks ago, and we need lots of it. Members of the herd who have immunity are a very valuable resource, especially at the front line of covid care.

## Serum farming

We may also need to farm these convalescents for their blood. Seriously? Satire can be hard to distinguish from reality in the time of covid, as it was in 1729 when Jonathan Swift put forward his Modest Proposal that the starving Irish should roast and eat their children. Once the words “herd immunity” had slipped from the lips of the UK’s political masters a couple of weeks ago, the world stood aghast to see what might happen next. Would Britons proceed rejoicingly towards the collapse of the NHS and a cull of the old and the ill? Or might we convert schools into serum ranches to extract antibodies from the blood of young herdslings who had all acquired and recovered from covid-19? The use of vampires was possibly suggested in private briefings. Who can know? In fact convalescent serums could be an important therapeutic or even preventive tool in the fight against the virus, argues a viewpoint article in the *Journal of Clinical Investigation* (<https://www.jci.org/articles/view/138003#ACK>). For those at highest risk, this sounds very welcome.



## Vulnerability

In the coming days, people of my age who are left will dip madeleine biscuits in their tea and remember the time of fear. We had it too good for too long. Even at the best of times, I don’t like prognostic scores and modelling, and I certainly don’t like them now that I am a subject. Currently a lot of people are drawn to predicting who will live or die in this pandemic, using methods like those described in *medRxiv* (<https://www.medrxiv.org/content/10.1101/2020.03.16.20036723v1>). Better models are no doubt available. Maybe I will get to read follow-on studies in a few years’ time over my tea and biscuits, showing which of these fitted the data best. Or maybe I won’t.

Read the full version of this round-up at [bmj.com/blogs](https://bmj.com/blogs)

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## SPOT DIAGNOSIS

### Intranasal pain in a patient with Behçet's disease

A 52 year old woman with Behçet's disease presented with two to three days of severe pain in her left nostril. She had been taking prednisolone for 20 years for Behçet's associated complications.

She reported occasional bouts of Behçet's associated aphthous stomatitis inside her mouth and on her lips, face, and hands, and said that topical corticosteroid was effective in these instances.

She also stated that blisters that were different from the aphthous ulcers sometimes appeared on her face, lips, and inside her mouth when the dose of steroid increased; these responded well to topical aciclovir so were assumed to be herpes simplex virus (HSV).

Six months earlier she had experienced a previous episode of

similar nostril pain that didn't respond to topical corticosteroid ointment, and she noticed an improvement when she tried vidarabine ointment that she already had at home.

On inspection, there was nothing visible externally on or around her nose. Examination of her ear, face, tongue, oral cavity, pharynx, larynx, head and neck area was also normal. However, examination with a nasal speculum showed blisters inside her left nostril.

Nasal endoscopy was performed to observe the blisters in more detail. There was no evidence of aphthous stomatitis but there were blisters (figure) directly behind the nasal hair inside her left nasal alar.

HSV IgM was negative but HSV IgG was positive.

**What is the most likely diagnosis?**



Endoscopic image showing blisters directly behind the nasal hair inside her left nasal alar

Submitted by Koichi Tsunoda and Rinako Endo

Patient consent obtained.

Cite this as: *BMJ* 2020;368:m525

If you would like to write a Case Review or Spot Diagnosis for Endgames, please see our author guidelines at <http://bit.ly/29HCBAL> and submit online at <http://bit.ly/29yyGSx>

### Intranasal pain in a patient with Behçet's disease

#### SPOT DIAGNOSIS

**What is the most likely diagnosis?**

Intranasal herpes simplex in someone who is immunocompromised owing to long term corticosteroid therapy.

Intranasal HSV infection is not commonly reported; however, this is the most likely diagnosis based on the patient's medical history of glucocorticoid therapy and presumed HSV.

HSV IgM was negative but HSV IgG was positive, which, in keeping with the presumed HSV history, suggested that this is not a first HSV infection.

Current and recent doses of glucocorticoid have the greatest impact on infection risk, but the cumulative impact of doses taken in the past two to three years also affects the risk.

Other dermatological manifestations of

Behçet's include erythema nodosum and aphthous stomatitis. Erythema nodosum was not considered because of the mucocutaneous location and the absence of erythema; however, aphthous stomatitis was a possible differential.

The following features can help to distinguish Behçet's aphthous ulcers from HSV blisters:

- Aphthous ulcers do not blister
- In Behçet's, several aphthous ulcers usually occur simultaneously, most commonly in the oral cavity.

It would be reasonable to treat this case as HSV because there is blistering and because previous blisters responded to aciclovir.

If blisters do not respond to HSV medication it would be feasible to consider biopsy to rule out squamous cell carcinoma.

**LEARNING POINTS**

- Consider intranasal examination when patients present with nasal pain.
- Consider HSV infection in immunocompromised patients.

**PATIENT OUTCOME**

We advised the woman to stop taking the oral steroid immediately and start taking oral famciclovir for HSV. Seven days later the pain and blisters disappeared. The woman started taking prednisolone 2 mg/day for the maintenance of her Behçet's disease.

One year later she has not had any HSV or Behçet's symptoms.

answers



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>.

### The hidden pupil: a unilateral congenital corectopia

This slit lamp photograph shows unilateral congenital corectopia in the left eye. The patient was a 5 month old boy who was referred for visual unresponsiveness and absence of a pupil in the left eye. His right eye was normal.

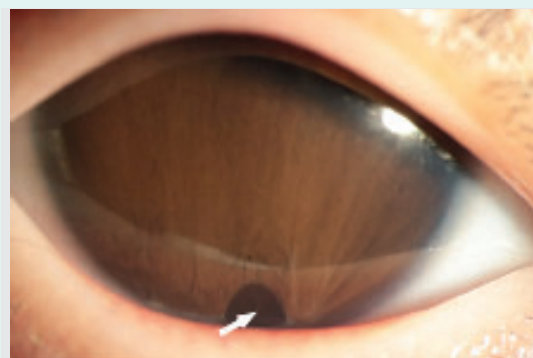
Further examination revealed a triangular inferiorly displaced pupil, completely covered by the posterior pigmented iris tissue (arrow), becoming visible after administration of mydriatics. Prompt recognition is

important as timely surgical intervention may be needed to preserve visual acuity.

Corectopia describes the displacement of the pupil from the centre in any direction and can be congenital or acquired.<sup>1</sup> Congenital corectopia is usually bilateral and isolated unilateral congenital corectopia is rare.

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Parental consent obtained.

Cite this as: *BMJ* 2020;368:m847



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

### Lower gastrointestinal bleeds

If a patient taking oral anticoagulants has a lower gastrointestinal bleed, it's a mistake to think that the anticoagulant is to blame. A large Danish register study finds that there's a substantial possibility that the bleed has nothing to do with the drug. Among 2500 people who sustained lower GI bleeds while taking anticoagulants, nearly 140 were subsequently diagnosed with colorectal cancer. The absolute risk of colorectal cancer after lower GI bleeding in people on anticoagulants was between 4% and 8%. Older people had the highest risk (*Eur Heart J* doi:10.1093/eurheartj/ehz964).



### Diabetic foot ulcers

Lower limb ulcers in people with diabetes are notoriously slow to heal. Part of the reason is thought to be tissue hypoxia. This is the rationale behind a device that delivers high concentrations of oxygen directly to the surface of the ulcer by means of a chamber encasing the affected limb. A small randomised trial found benefit (*Diabetes Care* doi:10.2337/dc19-0476). After 12 weeks of daily treatment, ulcer healing had occurred in 42% of intervention patients compared with only 14% of patients who were treated with the same device but with air rather than oxygen.

### Screening for dementia

There's no point in screening for a disease unless there's an effective intervention. Indeed, making people aware of something that they can't do anything about probably makes matters worse rather than better. Minerva would have put screening for dementia in primary care into that category—except that a randomised trial from Indiana finds no evidence of harm (*J Am Geriatr Soc* doi:10.1111/jgs.16247). Health related quality of life, depressive symptoms, and anxiety were no worse in the group allocated to screening than in those who hadn't been screened. Mind you, many people in the trial declined further diagnostic assessment after they screened positive.

### Acute urticaria

H1 antihistamines are the first line treatment for acute urticaria. Although they don't inhibit mast cell degranulation, steroids are often given as well, in the belief that they suppress contributing inflammatory mechanisms. A small randomised controlled trial calls this assumption into question. At an hour after treatment, scores for severity of pruritus were no better in people treated with a combination of dexamethasone and chlorpheniramine than in people given chlorpheniramine alone (*Am J Emerg Med* doi:10.1016/j.ajem.2020.02.025). There were

no differences between treatment groups at one week and one month follow-up either, except for a suggestion that recurrence of urticarial rash and pruritus was actually more likely in those who received oral steroids.

### Healthy grandparents

People who have grandchildren to look after usually count themselves lucky. It gives them the opportunity to contribute something important at a time in life when they might otherwise be inclined to think that their usefulness was diminishing. A community based survey from Germany came close to stating the obvious when it reported that both men and women who helped with the care of grandchildren were less likely to complain of loneliness and social isolation, and more likely to belong to a large social network (*BMJ Open* doi:10.1136/bmjopen-2019-029605).

Cite this as: *BMJ* 2020;368:m1105

