Recommendations

Organisation of the patient pathway, protection of patients and hospital staff during lockdown and the resumption of non-COVID-19 activity Version 1 – 20 April 2020

SUMMARY

1. Progressive return to normal activity, **gathering together (cohorting) patients hospitalised with COVID-19.**
2. Thorough **decontamination** of COVID-19 units **before** resuming non-COVID-19 activity
3. **Protection of patients: physical distancing** throughout the hospital journey (single room while in hospital, spacing of chairs in Day Hospital, arrangement of waiting rooms etc.), training in use of **alcohol-based hand sanitiser** and wearing of surgical **masks**
4. **Protection of staff**: rigorous application of **physical and social distancing, hand sanitisation** and wearing of **personal protective equipment** suited to the risk of exposure to respiratory secretions, whatever the COVID-19 status of the patient.
5. **Diagnosis by PCR** of patients and staff having even a few symptoms suggestive of COVID-19,
6. **Diagnosis by PCR** of **asymptomatic** patients and staff, limited to certain indications including investigations surrounding a case of COVID-19 in a patient or member of staff.
7. **Indications for serological testing** to be clarified at a future date

During this period of lockdown and in the weeks to come, the organisation of care and of administrative procedures must be designed to limit spread of the virus in hospital, both for hospital staff and patients. A comprehensive plan must be established, to reduce length of stay, maximise outpatient management and rapid recovery after surgery and clarify the role of hospital hotels.

CURRENT SITUATION

1. Patients and staff with signs suggestive of COVID-19

Any patient, or hospital staff member, who shows symptoms suggestive of COVID-19 is screened by PCR testing of a nasopharyngeal sample and isolated.

- Patients with respiratory COVID-19 infection are cared for in a COVID-19 zone and pathway.
- Staff with COVID-19 are excluded from work for a period of 7 days, which may be extended depending on the clinical course and potential associated co-morbidities (in which case, for a minimum of 9 days).

NB: COVID-19 can present with atypical symptoms in elderly patients (confusion, unusual falls, gastrointestinal disorders etc.)

The number of new patients hospitalised with COVID-19 is falling. The number of patients cured is increasing, the COVID-19 zones are gradually emptying.

2. Patients and staff with no signs suggestive of COVID-19

Some patients, accompanying persons and staff may be carrying the virus without being symptomatic. They represent a risk for contamination of staff, patients and accompanying persons.

Currently, PCR diagnosis of COVID-19 is provided by the APHP (see note from 10/04/2020) for asymptomatic patients admitted to hospital for procedures or treatments where COVID-19 could have serious consequences (major surgery, chemotherapy causing neutropenia etc).

NB: the PCR test has a sensitivity of around 70% to 80% in a symptomatic patient. In an asymptomatic patient, there is no justification for carrying out a chest CT scan in addition to PCR testing of nasopharyngeal samples for COVID-19 infection.

VALUE AND LIMITATIONS OF THE VARIOUS POSSIBLE MEASURES

These measures are complementary to hand disinfection using alcohol hand sanitiser and continuous wearing of surgical masks in all areas of the hospital by all hospital staff.

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Possible measures	Value	Limitations
Single room	- Avoids spread to person(s) sharing room - Avoids risk of distrust between patients in a double room	- Availability of single rooms or limitation of hospital admission capacity
Segregation into COVID-19 positive and COVID-19 negative units	- Theoretical reduction in nosocomial transmission between patients - Protective measures adapted to each zone	- Specialised ongoing care has to be organised - Organisational difficulties - Feeling of "false security" for staff with possible relaxation of respect for hygiene rules in COVID-19 negative zones. - The PCR test on a patient admitted into a COVID-19 negative zone can become positive during hospitalisation
PCR screening of everyone admitted to hospital* (see footnote)	- Identifies a COVID-19 patient as soon as they arrive - Admission into a COVID-19 positive zone	- False negatives - Time taken to obtain results - Valid at a given time point, but risk of becoming positive over the following days, including in a COVID-19 negative zone - PCR testing capacity
PCR screening of all staff* (see footnote)	- Identifies asymptomatic members of staff with COVID-19, who can then be excluded from work, hence limiting transmission of the virus to colleagues and patients	- False negatives - Valid at a given time point, but risk of becoming positive over the following days, therefore requiring repetition at regular intervals - Hard on the staff - Organisationally burdensome and difficult - PCR testing capacity
Surgical masks for all admitted patients and accompanying persons (paediatrics)	- Universal measure, easily implemented - Limits spread of the virus in the hospital - Makes screening at admission debatable	- Patient discomfort - Application by the patient - Unsuitable for wearing in certain situations/areas, e.g. paediatrics, psychiatry. - Availability of surgical masks

* The potential value of serological testing will need to be clarified once the various tests under evaluation have been validated and have become available. Serological testing cannot currently be used for decision making.

SCREENING BY PCR PRIORITY INDICATIONS

The value of routine PCR testing for diagnosis of COVID-19 is debatable (see table above) Routine PCR testing is not recommended, except for the following indications:

- Patients and staff with even a few symptoms suggestive of COVID-19,
- Investigations surrounding a case of COVID-19 in a patient or member of staff.
- Asymptomatic patients
    - admitted for procedures where COVID-19 could have serious consequences.
    - admitted to a double room, on admission and, if necessary, when symptoms appear.
    - admitted to units in which preventive measures are very difficult to apply (for example psychiatry)
- Patients at increased risk of spreading the virus, for example patients with a tracheotomy before discharge or transfer.

NB: the availability of serological testing may change these recommendations when tests currently under evaluation have been validated and become available. Some rapid diagnostic tests appear to improve the sensitivity of PCR screening and may be added for these indications

ORGANISATION OF CARE FOR THE COMING WEEKS

The measures should be adapted to fit the specifics of the services concerned, working with the infection control team and the crisis management unit of the site. They must be capable of being applied throughout the period of progressive return to non-COVID-19 activity. The principle of "universal" precautions should therefore be favoured over individual measures.

COVID-19 zones

These gather together patients **requiring hospitalisation for COVID-19 infection.**
Patients hospitalised with other diseases, initially admitted to a COVID-19 negative zone but in the end having COVID-19 with no or few symptoms, will be able to remain in a COVID-19 negative zone if it is certain that the local organisational procedures will allow for rigorous application of hygiene rules with no risk of nosocomial transmission. If any doubt arises, they must be transferred to a COVID-19 positive zone.

As COVID-19 patients are cured and discharged from hospital, so the COVID-19 zones will empty. Once the whole zone has been freed up, it will be necessary to proceed to a complete decontamination of the zone (cf. recommendations of 09/04/2020). **The decontamination must be planned** so as to coordinate the involvement of housekeeping staff, service providers and technical services. A minimum of 24 hours must be dedicated to this decontamination (and more if maintenance has to be carried out).
Do not admit non-COVID-19 patients into a COVID-19 zone **which has not been decontaminated.**

Organisation of hospital care in non-COVID-19 zones

- Every admitted patient is placed in a **single room with individual toilet facilities** as far as possible. This is the preferred solution.
- If a single room is not available for the whole period of hospitalisation, the patient should be screened by PCR before being placed in an individual room ("isolation" room) for 24 to 48 hours - the time needed to ensure that the PCR test is negative and that the patient is not developing signs of COVID-19 infection. Twice daily assessment for signs suggestive of COVID-19 should be carried out. As soon as any suggestive signs appear PCR screening should be repeated and the patient then transferred immediately to a single room.
- Double rooms are prioritised for use in grouping together COVID-19 patients and for patients cured of COVID-19. The possibility of using a double room to admit patients with a positive serological test, when these are available and validated, will be the subject of collective discussion.
- A patient with COVID-19, or showing the slightest suggestive sign, should never be placed in the same room as a patient who does not have COVID-19.
- A single room is **essential** for patients having a **chronic disease with a risk of developing a severe form of COVID-19** (cf. French Public Health Council list in the appendix) and in departments where the patient cannot continuously wear a mask (paediatrics, psychiatry etc.).
- NB: these recommendations need to be adapted for some specific areas such as neonatology, or the follow-up care and rehabilitation and long-term care sectors in geriatrics.
- Proposals for organising the progressive resumption of communal activities by elderly patients in follow-up or long-term care are brought together in a document from 17/04/2020.

Organisation of care in day hospitals, during consultations or in drug dispensing settings (hospital pharmacies)

- The **protective** measures listed below are to be applied by patients and staff.
- Respect of physical and spatial distancing is essential, whether in waiting rooms or day-hospital rooms (spacing of chairs). Organisational changes will have to be adopted in this respect. Consultation time slots may need to be arranged so as to limit patient waiting time as much as possible.
- The value of a dedicated consultation site independent of hospital departments will be considered, depending on the architectural specifics of the sites.
- In the day-hospital setting, screening by PCR ahead of admission (potentially in association with serological testing - see above) should be considered on a case-by-case basis (see: "value and limitations" table on page 1).
- Virtual consultation should be encouraged and it will probably be necessary to limit face-to-face consultations over the coming weeks or months, as along as the COVID-19 epidemic remains active.

Organisation of radiology investigations and clinical support facilities

Thought needs to be given to the best way of organising the management of COVID-19 patients amidst the flow of COVID-19 negative patients.

- The **protective** measures listed below are to be applied by patients and staff.
- Respect of physical **distancing** is essential.
- Decontamination of the environment must be carried out between every patient.

Organisation of surgical operations and interventional procedures (endoscopy, interventional radiology etc.)

- The **protective** measures listed below are to be applied by patients and staff.
- Reminder: an **FFP2 mask** is indicated during **at risk respiratory procedures**, whether the patient is known to have COVID-19 or not, especially during intubation/extubation.
- Screening by PCR should be carried out for the indications listed above (procedures where COVID-19 infection could have serious consequences). PCR screening ahead of admission should be considered on a case-by-case basis (see "value and limitations" table on page 1). (The value of serological testing is under evaluation, see above)

Organisation of administrative processes

Administrative processes should be organised so as to limit as far as possible any interaction with the administrative staff.

- Preference should be given to pre-registration, physical distancing (admissions, payment areas), recommending on-line (or, if not, credit card) payment, logging on to the patient portal to obtain consultation and hospitalisation reports and to make on-line appointments.
- Administration staff in contact with patients must abide by the general recommendations.

PROTECTIVE MEASURES TO BE APPLIED IN ALL DEPARTMENTS

A stand will be set up at the entrance of every hospital to inform patients and visitors, to give out surgical masks to those who do not have one, and to provide training in use of alcohol-based hand sanitiser.

Patients

- Training in use of alcohol-based hand sanitiser will be given to every patient and accompanying person before entering. The patient will carry out hand sanitisation every time he/she enters and leaves his/her room.
- Every patient and accompanying person will wear a **surgical** or procedure **mask** (or failing that a cloth mask) as soon as they enter the facility (consultation, day-hospital, in-patient hospital etc.)
    - While in hospital, the patient will wear a surgical mask as soon as a member of staff enters his/her room or cubicle, or as soon as he/she leaves the room (including in the physiotherapy facility).
    - In a double room, even though this measure may seem difficult to apply, the patient should ideally wear a mask continuously (or at least when moving around the room). He/she will be requested to stay in bed. A screen will be placed between the two beds.
    - Two masks will be delivered every day to each hospitalised patient.
    - For some activities in which the faces of the patient and staff need to be visible (e.g. speech therapy), a visor can be worn by the staff member and patient, in place of a mask, or a plexiglass screen can be installed.

Visitors

Visiting is limited. Visits by people with symptoms suggestive of COVID-19 are not permitted. Visitors or accompanying persons will wear a surgical mask and carry out hand sanitisation on arriving and leaving.

Staff

The measures below must be followed rigorously **by all staff operating in the hospital**, including administrative staff, staff of external companies, and staff in training (hospital students, paramedical students etc.)
Training will be given to all staff and in particular to those who have recently joined the institution (staff in training).

- Social and spatial distancing must be scrupulously adhered to, both in hospital (staff breaks, meals etc) and outside: keeping a distance of at least 2 metres between each other at times when wearing of masks is not possible (breaks, meals).
- **Hands must be disinfected with sanitiser, before and after every contact with a patient or his/her environment.** Avoid touching the face (mask, glasses), especially while caring for a patient
- **Uniforms must be changed every day** (ideally fabric or single use scrubs, or failing that, short-sleeve coat)
- Routine and continuous wearing of **surgical masks** by professionals, volunteers and other workers as soon as they enter the building, in all communal areas, and in care units, but also during communal breaks outside the buildings.
- **An FFP2 mask** is indicated during **at-risk respiratory procedures**, whether or not the patient is known to have COVID-19, cf recommendations of 24/03/2020.
- Eye protection with **glasses** or visor for staff in contact with patients
    - A pair of glasses or a visor will be given to each member of staff who will be responsible for its disinfection.
    - They are to be worn in **situations where there is a risk of exposure to body fluids** (respiratory secretions [from coughing, sputum], stools, urine)
- **Gown or apron** if direct contact with the patient, depending on the care being given (cf standard precautions).
- Hair protection by a **scrub cap** to be worn if there is a **risk of exposure to body fluids** (one is given every day to the staff member and can be kept all day),

Environment

Thorough and regular **disinfection,** particularly of points of hand transmission (e.g. door handles, corridor rails) and rooms housing (or having recently housed) a patient with COVID-19.

COVISAN

Staff with COVID-19 will be offered the same options as those in the COVISAN programme, allowing their close contacts, including family, to be protected and screened.

The measures presented here will be regularly reassessed and modified to take account of the course of the epidemic and the availability of serological testing

Authors: Sandra Fournier, Jean-Christophe Lucet, Bertrand Godeau
Reviewers Anani Akpabie, Rishma Amarsy, Patricia Baune, Diane Bouvry, Jean-Claude Carel, Anne Casetta, Eric Caumes, François Crémieux, Pierre Deblois, Jean-Winoc Decousser, Michel Denis, Véronique Derouin, Florence Espinasse, Nicolas Fortineau, Pierre Frange, Etienne Gayat, Valérie Goldstein, Julia Guilbert, Pierre Hausfater, Vincent Jarlier, Nicolas Javaud, Christophe Kassel, Najiby Kassis-Chikhani, Christine Lawrence, Thibault Lecarpentier, Margaux Lepainteur, Sophie Matheron, Giovanna Melica, Jean-Michel Molina, Véronique Moulin, Simone Nerome, Catherine Paugam Burtz, Eric Pautas, Juliette Pavie, Antoine Pelissolo, Jean-Damien Ricard, Bruno Riou, Jérôme Robert, Nadine Sabourin, Béatrice Salauze, Isabelle Simon, Valérie Souyri, Laurent Treluyer, Antoine Vieillard-Baron, Jean-Ralph Zahar

Appendix: Persons at risk of severe forms of COVID-19 according to the advice issued by the French Public Health Council on 31 March 2020

- people aged 70 years and over (though those between 50 and 70 years of age also require enhanced monitoring)
- people with a history of cardiovascular disease: hypertension with complications[2], history of stroke or coronary artery disease, heart surgery, heart failure at NYHA stage III or IV;
- diabetics* whose diabetes is poorly controlled or associated with complications;
- people with chronic respiratory disease liable to decompensation during a viral infection;
- patients with chronic kidney disease on dialysis;
- patients with cancer which is progressing on treatment (apart from endocrine therapy);

Despite absence of data in the literature, because a risk of severe COVID-19 can be presumed on the basis of known data for other respiratory infections[3], the following are also considered to be at risk of severe COVID-19:

- people with congenital or acquired immune deficiency:
    - drug-induced: anticancer chemotherapy, immunosuppressant therapy, biological therapies and/or corticosteroid treatment at immunosuppressive doses;
    - infection with HIV which is uncontrolled, or with a CD4 count of <200 / mm3;

    - following an organ graft, or haemopoetic stem cell transplantation, associated with a haematological malignancy undergoing treatment;
- patients with cirrhosis and a Child Pugh score of at least Class B:
- people with obesity (body mass index (BMI) > 40 kg/m2), by analogy with influenza A (H1N1), but also obesity with a BMI > 30 kg/m2*;
- people with sickle cell disease because of an increased risk of bacterial superinfection or of acute chest syndrome4or those with a history of splenectomy;
- pregnant women, in the third trimester of pregnancy, bearing in mind the very limited data available.

**based on the experience in the field of the intensive care professionals interviewed (unpublished data)*

2 Cardiac, renal and cerebrovascular complications

3 Obstructive pulmonary disease, severe asthma, pulmonary fibrosis, sleep apnoea syndrome, cystic fibrosis in particular

4 Acute chest syndrome is a pulmonary disorder specific to sickle cell disease. It is defined by the combination of fever or respiratory symptoms with a pulmonary infiltrate observed on chest x-ray