



COVID-19 guideline for symptom control and clinical decision-making for nursing homes

(work in progress)

BASED ON RECOMMENDATIONS FOR LONG-TERM CARE FACILITIES IN BELGIUM

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Dear colleague,

The COVID-19 pandemic presents major challenges.

Some geriatricians, general practitioners and family physicians have prepared for you a document that can provide some help or guidance in making a risk-benefit analysis for nursing home residents in long-term care facilities in case there are decisions to be made about whether or not to hospitalize the resident - taking into account current ethical recommendations. We have developed a flow chart - decision tree for assistance in treating and controlling important respiratory symptoms.

We strongly recommend to also proactively evaluate nursing homes residents using the Clinical Frailty Scale. It can provide guidance in decision-making in urgent and critical situations. For nursing home residents who have a score of CFS 7 or more, and who were not yet involved in advance care planning and have not yet articulated or put into writing their wishes and preference regarding care, we propose to contact the geriatrician or involved physician, if in doubt. If there are several residents for whom advance care planning was not yet initiated, it may be desirable to discuss with the geriatrician or involved physician whether a visit to the long-term care facility can have added value. Unnecessary transfers are a risk for healthcare providers of transport services and emergency admissions.

Attention for advance care planning can be very helpful in these circumstances.

- Appendix 1: Treating and controlling most important COVID symptoms**
- Appendix 2: Ethics concerning proportionality of critical care during COVID-19 pandemic**
- Appendix 3: Clinical Frailty Scale (CFS)**
- Appendix 4: Decision tree for hospital admissions**

We hope that this instrument can serve as a helpful tool to provide each older adult in your facility, with appropriate and high-quality care in the most appropriate setting.

Sincerely,

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APPENDIX 1

1. Approach for fever

Non-pharmacological approach:

- Icepacks at the groin region of body
- A wet washcloth
- Refresh the patient regularly
- Change sheets and clothes
- Install a fan

Pharmacological approach in case the fever causes patient discomfort:

- Paracetamol
- Sodium metamizole
- Cave: sweating after administration is normal, which can sometimes cause more discomfort than leaving the fever untreated

2. Approach for dyspnea

Non-pharmacological approach:

- Show the patient how to breathe: inhale through the nose and exhale through the mouth
- Open a window to promote air circulation
- Avoid irritating and aerogenic producing factors (e.g. cigarette smoke, cosmetics with a strong smell, air fresheners)

Oxygen Administration:

- Whether or not to administer oxygen must be assessed individually on case-to-case basis
- The administration of oxygen can improve hypoxemia and thereby comfort
- Oxygen for palliative patients can be prescribed in two ways: in gaseous form (bottle) or via an oxygen concentrator. What should be on an oxygen prescription: 1) date: from ... until ... (minimally one month); 2) flow rate: number of liters/minutes; 3) humidification (if necessary).
- No longer measure saturations in a terminal phase; make your decisions based on the patient's clinical condition. Oxygen should not be boosted based on oxygen saturation; it is part of normal dying that a patient desaturates (see section 4: the dying patient)

Pharmacological approach:

A) Morphine:

Morphine is the most effective agent in the drug treatment of dyspnea.

Dose:

- Dose in a Morphine-naïve patient: 5 or 10 mg PO or 5 mg SC (especially in severe shortness of breath, works faster)
In case there is a good effect for a duration of 4 hours: calculate dose over 24 hours, e.g. 5 mg x 6 = 30 mg over 24 hours; if insufficient effect, repeat the dose every hour until you reach comfort, then calculate the dose in 24 hours.
- Dose in patients that are already taking opioids for pain: increase the dose by 30-50% and titrate upwards in 30% steps if necessary until the desired effect is achieved.

Method of administration:

- PO boluses possible with oxycodone hydrochloride / 4h; daily dose of morphine sulphate / 12h, oxycodone hydrochloride / 12h
- SC boluses possible every 4 hours via an SC catheter or continuously with a syringe driver

B) Sedatives or anxiolytics:

Effect: sedative, decrease in anxiety and relaxation of the muscles.

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Benzodiazepines:

- Lorazepam: 1 to 2.5 mg SL in an anxiety attack
- Lorazepam: 1-2 mg PO, max 4 mg/24h
- Alprazolam: 0.25-1 mg PO, max 4 mg/24h
- Midazolam: 5 to 30 mg / 24 h SC (advantage: short half-life)

C) Corticoids:

Are not effective in COVID-19 infection (may be indicated in co-morbidities, such as COPD exacerbation).

D) Aerosol:

This is better avoided in the context of COVID-19.

3. Management of cough

Non-pharmacological symptomatic treatment:

- The physiotherapist can give posture advice, e.g. effective coughing is best done sitting or standing and not lying on the back
- In case the person is ill but still able to cough up his secretions: teaching coughing techniques, postural advice, ... cave protection of the physiotherapist
- Avoid frequent aspiration (unpleasant, painful and stimulates the secretions)

Pharmacological treatment:

- In case of a tickly cough: narcotic cough inhibitor
- In case of a productive cough: possibly mucolytics, in the context of COVID-19 prefer to avoid aerosol
- In case of insufficient effect: morphine as described above
- In case of rattling breath: see section 4. 'the dying patient'

4. The dying patient

Basic principles of policy during terminal phase:

- Anticipating symptoms by providing "if necessary" or "emergency" medication
- Stopping burdensome medical and nursing interventions
- Discontinuing medication per os
- Discontinuing or tapering of subcutaneous (SC) fluid
- Communicating openly with everyone involved about the impending death
- Providing transfer during standby shifts
- Involving palliative home care (services) if symptoms cannot be controlled

DYSPNOE in the terminal phase

Patient does not use opioids

- Start morphine continuously 10 to 20 mg / 24h SC
- Provide morphine 5 mg SC in bolus to be repeated every 2 hours if needed
- Do not initiate transdermal opioids for dyspnea

Patient is using opioids

- Increase the dose of morphine by 30% / 24 h to provide acceptable patient comfort
- Give 1/6 to 1/10 of the daily dose of morphine to be repeated every 2 hours if needed with an increase in dyspnea
- If insufficient effect of morphine or if shortness of breath is accompanied by anxiety, associate midazolam SC: provide 5 mg midazolam in bolus in case of agitation, repeat if necessary or continuously start 10 to 15 mg midazolam per 24 h and 5 mg midazolam in bolus if necessary
- Do not start O2 if patient was not O2 dependent
- If patient is O2 dependent, decrease O2 to max 2L with nasal canula, do not use a mask

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- Stop O2 if patient is sub-comatose, stop bronchodilators and mucolytics
RATTLE in the terminal phase
<ul style="list-style-type: none"> - Stop parenteral fluid and nutrition - Start anticholinergics in time (before rattle is present) - Scopolamine SC: 0.25-0.5mg / 4h or 2mg / 24h - Butylhyoscine SC: 10-20 mg / 4h or 80 mg / 24h
TERMINAL RESTLESSNESS-AGITATION
<i>Treatment of terminal restlessness is not sedation</i>
<ul style="list-style-type: none"> - Stop all peroral medications, SC fluids, corticoids and antibiotics - Maintain pain relief - Midazolam (most useful are the ampoules of 15mg / 3ml - see 'deep sedation'): - Administer bolus 5mg (1ml) and start continuous administration 10mg to 15mg / 24h SC - Administer 5 mg (1ml) of Midazolam in bolus in case of unrest, to be repeated if necessary (increase the dose by 30 to 50% / depending on the symptoms) - <i>In case of permanent restlessness or delirium, proceed to deep sedation</i>

If the measures described above with morphine and low dose benzodiazepines (midazolam) provide insufficient symptom control and the shortness of breath or choking sensation is refractory, initiate DEEP SEDATION if possible after consultation with family and caregivers. Below you will find a guideline for deep palliative sedation in a patient with a life expectancy of a few days, signs of terminal phase or very fragile patient (based on the guideline deep continuous sedation Ghent University Hospital).

Deep Sedation	
<ul style="list-style-type: none"> - Subcutaneous administration: Give a bolus of 5mg Midazolam (Ampoules: 15mg / 3ml or high dose: 50mg / 10ml - caution ampoule of 5mg / 5ml are not useful for SC use) - Repeat until sleep every 15 min - Continuously start/administer Midazolam 60 mg / 24h - Start anticholinergics 80 mg Butylhyoscine or 2 mg Scopolamine / 24 h (Ampoules Butylhyoscine 20 mg = 1 ml, Ampoules Scopolamine 0.5 mg / ml) - Maintain the analgesic (subcutaneous and transdermal) and if analgesic switch peroral switch to subcutaneous 	
	
<u>Patient is sleeping deeply</u> <ul style="list-style-type: none"> - Continue Midazolam 60 mg / 24h via syringe driver or volumetric pump - Do not increase the dose - Stop oxygen delivery - Re-evaluate regularly 	<u>Patient wakes up spontaneously or during manipulation</u> <ul style="list-style-type: none"> - Give Midazolam 5 mg SC bolus and increase the 24h dose to a maximum of 90 mg / 24h - seek advice from palliative home care if the patient shows signs of suffering despite driving up Midazolam - Evaluate regularly

APPENDIX 2

Ethical principles concerning proportionality of critical care during the 2020 COVID-19 pandemic in Belgium: advice by the Belgian Society of Intensive care medicine

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The Belgian Society of Intensive Care Medicine, has been invited to delineate the ethical principles concerning proportionality of care during the 2020 COVID-19 pandemic. A national ethical guideline for in-hospital triage of COVID-19 patients is not the mandate of the Belgian Society of Intensive Care Medicine. It is recommended that each hospital drafts their own ethical guideline early in the epidemic, to avoid that clinicians will have to take difficult decisions without ethical guidance, leading to arbitrary decisions.

Introduction

In the intensive care unit, invasive life-sustaining and life-saving therapies are applied to patients who would not survive without such aggressive care, because of vital organ failure. In general, intensive care medicine should be reserved for patients in whom a good or at least acceptable outcome can be expected, after hospital discharge. Disproportionate care is defined as the use of such advanced life-sustaining measures in patients with poor long-term expectations secondary to more chronic organ dysfunctions, comorbidities and/or a poor quality of life [1]. Under normal circumstances, even when there is no pressure on ICU beds, disproportionate care should be avoided at all times. Most patients in Europe who die in the intensive care unit, will do so after a decision not to initiate or to withdraw life-sustaining therapies [2]. Such a decision should be openly discussed with patients, or their relatives. In the intensive care unit, such ethical considerations are part of routine between advanced life sustaining therapies and expected outcome is made on a daily basis.

COVID-19: special considerations

The COVID-19 pandemic poses a major strain on the health care system, because of the absence of herd immunity against this new virus [3]. In a very short time, patients requiring respiratory support present to the hospital. In Italy, the capacity of the health care system was insufficient to deal with the huge number of patients, leading to a collapse of the healthcare system. In particular, the amount of critical care beds was a critical bottleneck of the system, and current projections of the trend in the near future are alarming [4].

Such an extreme overload of the hospital system will have important ethical implications, as treating physicians will need to decide which patients to admit, and which patients will be denied critical care. A first priority is to take the right measures to maximize capacity in the intensive care units of all hospitals, by postponing non-urgent medical care, and transforming non-critical units into critical care units. However, when in spite of these measures, there is still not enough capacity to treat all presenting patients, there is a need for triage [5]. The timely identification of disproportionate care is extremely important, because in case of hospital overload, it can be imagined that a patient with a good chance of survival is denied critical care, while too many patients with disproportionate care are occupying a bed.

Disproportionate care should be defined on a scientifically funded estimate of the expected outcome, which implies knowledge of an advanced care plan, the medical condition of the patient, the antecedents, the acute evolution of his condition, and a funded estimate of his prognosis with and

APPENDIX 2 (continued)

without intensive care. In addition, non-COVID-19 patients should be evaluated according to the same criteria in order to avoid discrimination between both groups. Although an increased age is associated with worse outcomes in COVID-19, age in isolation cannot be used for triage decisions, but should be integrated with other clinical parameters. Frailty and reduced cognition, more than age, are independent predictors of outcome when elderly patients are admitted to the ICU [6].

The COVID-19 Critical Care Ethical taskforce of the Belgian Society of Intensive Care Medicine proposes the following recommendations:

1. ADVANCE CARE PLANNING BEFORE ICU ADMISSION

Elderly residents in retirement homes often suffer from severe cognitive, physical, or social disabilities that are incompatible with an independent life at home. Many of these patients suffer from moderate to severe frailty [7]. In view of the predicted acute overload of the Belgian healthcare system during the COVID-19 epidemic, the Belgian Society of Intensive Care Medicine recommends that patients for whom critical care would be disproportionate, are identified early, to avoid that they are sent to an overcrowded hospital unnecessary. Hence, an advanced care plan should be discussed with residents of retirement homes, or their relatives, in advance. In the acute phase, this is no longer possible because of the medical condition of the patient. In addition, it would be ethically and emotionally undesirable to request families to make such a difficult decision in the acute setting.

The Belgian Society of Intensive Care Medicine recommends that this care plan pre-specifies which interventions are considered, or which interventions would be undesirable, for a particular patient. We would recommend that this advanced care plan contains, at least, statements whether or not it is desirable to initiate:

- cardiopulmonary resuscitation
- admission to the hospital
- admission to an intensive care unit
- endotracheal intubation
- non-invasive mechanical ventilation
- pharmacological hemodynamic support
- the initiation of renal replacement therapy.

Extracorporeal Membrane Oxygenation (ECMO) should never be considered in this age group regardless of COVID-19. If possible and feasible, it is recommended that the general practitioner of the patient proactively takes the initiative to discuss advanced care planning with these patients, preferably before they become infected with the SARS-CoV-19 virus or suffer from COVID-19. For most elderly patients who reside in a retirement home with severe cognitive impairment, keeping the patient in the nursing home for symptomatic therapy could be a reasonable and human option. In general, referral of these patients to a potentially overstretched hospital should only be considered with a clearly defined realistic therapeutic goal, and referral to the intensive care unit is not advised.

2. OUT-OF-HOSPITAL CARDIOPULMONARY RESUSCITATION

Out-of-hospital cardiopulmonary resuscitation (basic and advanced life support) in a known COVID-19 positive patient with active disease is not advised, because of the risk of contamination for the healthcare worker is not in proportion to the low expected outcome. Of course, this situation will be rare and can be avoided by, for instance, an early warning score.

APPENDIX 2 (continued)

3. ETHICAL CONSIDERATIONS FOR TRIAGE IN-HOSPITAL

The Belgian Society of Intensive Care Medicine recommends that the following considerations should be taken into account:


- Decisions to deny or prioritize care should always be discussed with at least 2, but preferably 3 physicians with experience in the treatment of respiratory failure in the ICU. In case the doctor is not able to consult with a colleague in the hospital, a teleconsultation with an experienced colleague within the same hospital network could be organized. Consultation with a geriatrician or the general practitioner of the patient could be an option.
- Many COVID-19 patients will be elderly, but age in itself is not a good criterion to decide on disproportionate care.
- It should be assessed upon admission whether a patient has an advanced care plan.
- In elderly patients, frailty, for instance using the Clinical Frailty Score (CFS) [7], should be assessed and taken into account.
- In elderly patients, cognitive impairment should be assessed and taken into account.
- In all patients, terminal oncological disease, and severe chronic co-morbidity such as end-stage organ failure (dialysis, heart failure, liver cirrhosis,...), should be assessed and taken into account.
- Priorities should be decided based on medical urgency.
- In case of comparable medical urgency, the “first come first serve” principle, and the “random” criterion, are the most useful and fair criteria [8].
- A register of triage decisions is kept for transparency and evaluation. This registry can be used for transparency, and evaluation after the pandemic.
- The impact of the COVID-19 epidemic on triage decisions of non-COVID patients should be addressed.
- Physicians involved in triage should be offered psychological support. This support should continue until after the crisis and involve an ethical debriefing [9].


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APPENDIX 3


Clinical Frailty Scale*


 **1 Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.


 **2 Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.


 **3 Managing Well** – People whose **medical problems are well controlled**, but are **not regularly active** beyond routine walking.


 **4 Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities**. A common complaint is being “slowed up”, and/or being tired during the day.

 **5 Mildly Frail** – These people often have **more evident slowing**, and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

 **6 Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

 **7 Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

 **8 Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

 **9. Terminally Ill** - Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise evidently frail**.

Scoring frailty in people with dementia


The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

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Rockwood K, Song X, MacKnight C, Bergman H, Hogan DB, McDowell I, Mitnitski A. A global clinical measure of fitness and frailty in elderly people. *CMAJ*. 2005 Aug 30;173(5):489-95

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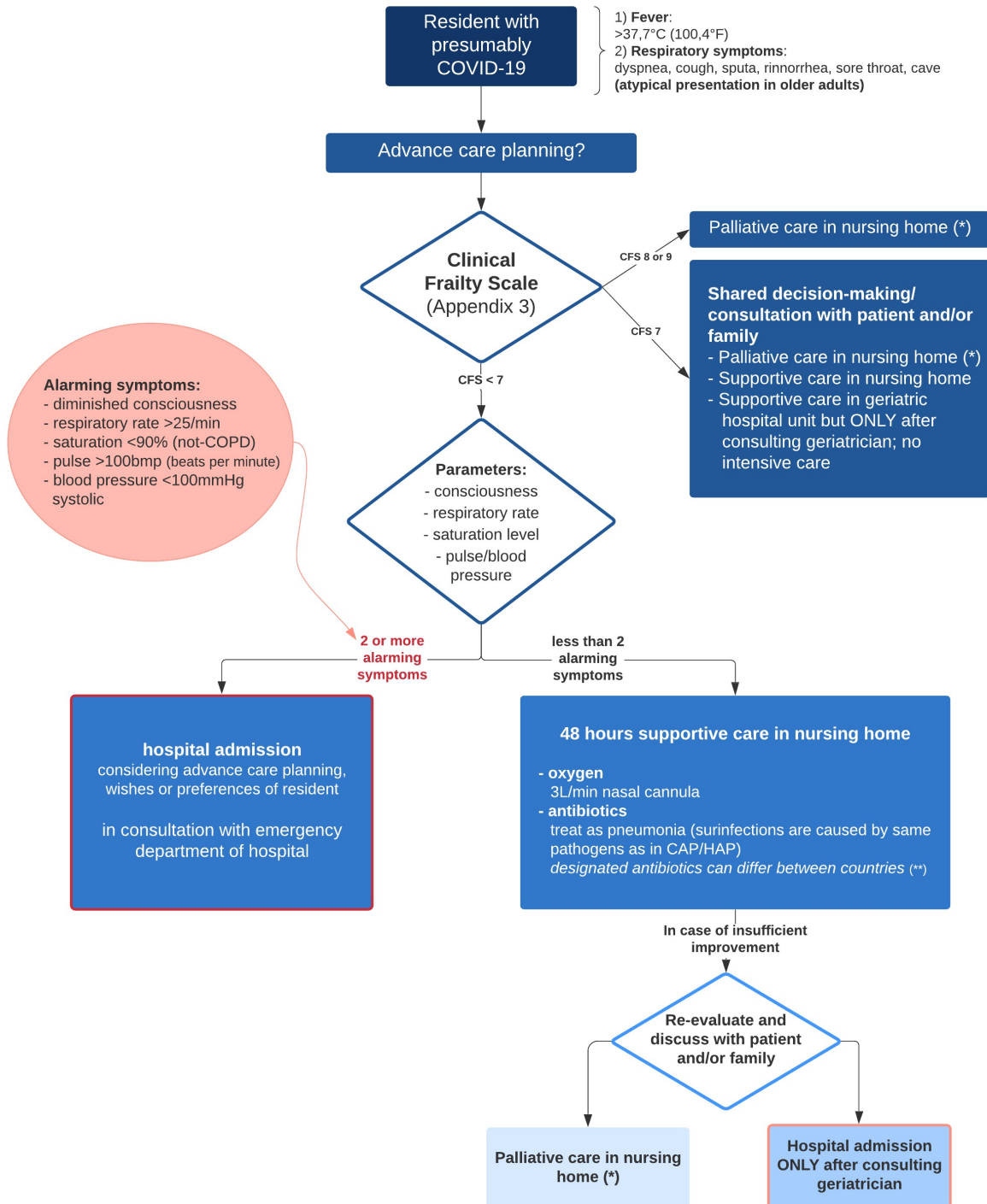
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APPENDIX 4

This flowchart might be adapted in case of 1) new guidelines and evidence; 2) whether or not there is appropriate safety material available in the nursing home; 3) whether or not testing will be made available for nursing homes ('negative' cases might in that case be treated differently than currently stated)

Decision tree hospital admission

COVID-19 nursing home residents | hospital admission



(*) See Appendix 1 "respiratory symptoms"

(**) Specific guidelines for Belgium are available in the Dutch version of this guideline.

Note: Cardiopulmonary resuscitation in nursing homes is not advised.

Note: Please keep in mind - for appropriate use of the Clinical Frailty Scale, that this scale was originally designed to measure severity of frailty after a comprehensive geriatric assessment and usually cannot take only 1 minute (<https://www.bgs.org.uk/resources/recognising-frailty>).

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