# ACUTE COVID-19 INFECTION OR EXPOSURE

# STATEWIDE PROTOCOL

# Iowa Board of Pharmacy

## I. Purpose

This statewide protocol specifies the criteria and procedures for a pharmacist to initiate CLIA-waived point-of-care testing and/or, when indicated, the administration of therapies to treat acute COVID-19 infection or to provide post-exposure prophylaxis. The purpose of this protocol is to ensure appropriate and timely therapy for individuals with COVID-19 following diagnostic confirmation or who are at risk of disease progression who have been exposed to SARS-CoV-2.

## II. Authority

Pursuant to Iowa Code section 155A.46, a pharmacist may order and administer point-of-care testing and treatment of COVID-19 pursuant to a protocol developed by the Iowa Board of Pharmacy ("Board") in consultation with the Department of Public Health to individuals aged six (6) years and older, only in accordance with this protocol. For the purpose of this protocol, the pharmacist's order shall constitute a prescription. For the purpose of this protocol, "pharmacist" shall include a licensed pharmacist or registered pharmacist-intern who has completed the training requirements identified in Section III (Qualification). Pursuant to rule 657—3.21(155A), non-clinical, technical functions may be delegated to a pharmacy technician who has documented training in the function being delegated and who is under the supervision of a pharmacist.

## III. Qualification

Prior to initiating COVID testing and/or administration of therapy under this protocol, a pharmacist shall document successful completion of education and training in point-of-care CLIA-waived testing techniques appropriate to the test employed by the pharmacist from a provider accredited by the Accreditation Council for Pharmacy Education (ACPE). Individuals who will be involved with patient specimen collection shall have documented hands-on training for specimen collection which includes infection control measures.

Additionally, a pharmacist shall document successful completion of at least one (1) hour of training or continuing education related to COVID monoclonal antibody treatment which may include, but not be limited to:

- CDC 8/12/2021 Webinar: CDC Therapeutic Options to Prevent Severe COVID-19 in Immunocompromised People
- IDPH Webinar: Iowa Department of Public Health COVID-19 Monoclonal Antibodies CE
- ASHP CE Program: Monoclonal Antibodies for Treatment of COVID-19: Managing Patient and Drug Selection in a Variant Environment
- APhA CE Program: COVID-19 Monoclonal Antibody Assessment & Administration

The pharmacist should be familiar with current recommendations for the use of therapies in the treatment of COVID-19 by the Centers for Disease Control and Prevention (CDC).

## IV. Criteria to initiate CLIA-waived diagnostic test

A pharmacist may initiate a CLIA-waived diagnostic test for any patient aged six (6) years and older (with consent of a parent/guardian if < 18 years old).

If an individual does not qualify for testing under this protocol, the pharmacist shall refer the individual to a primary care provider or urgent/emergency treatment facility as clinically appropriate.

For the purpose of administration of monoclonal antibodies pursuant to this protocol, the patient may alternatively provide the pharmacy with documentation of a diagnostic COVID-19 test result performed within the previous 14 days.

## V. Patient evaluation

The pharmacist shall evaluate the patient's responses and complete the pharmacist physical assessment on the COVID Monoclonal Antibodies (REGEN-COV™) Self-Screening Patient Intake Form (Appendix A).

## VI. Criteria for initiation of monoclonal antibodies

1. *COVID Monoclonal Antibody Screen* (Form Qs: #1-2 and pharmacist physical assessment)
    a. Age < 12 years old → refer to healthcare provider
    b. Weight < 88 lbs (40 kg) → refer to healthcare provider
    c. Clinical factors:
        i. Oxygenation:
            1. SpO2 < 94% or if patient self-reports SpO2 is regularly 91-93% and SpO2 is lower than normal for the patient → refer immediately to local emergency department or call 911
            2. If chronic oxygen supplementation required and, based on self-report, oxygen need has increased after positive COVID-19 test or exposure → refer to local emergency department or call 911
            3. If on oxygen supplementation due to current or previous COVID infection → refer for medical evaluation by a healthcare provider
        ii. Respiratory rate > 30/min → refer immediately to local emergency department or call 911
        iii. Blood pressure:
            1. Systolic blood pressure > 180 mmHg or diastolic blood pressure > 120 mmHg → refer immediately to local emergency department or call 911
            2. Systolic blood pressure < 90 mmHg or diastolic blood pressure < 60 mmHg → refer immediately to local emergency department or call 911
            3. Pulse < 60 or > 100 → refer for medical evaluation by a healthcare provider

iv. Emergency warning signs:
    1. For COVID-19: trouble breathing; persistent pain or pressure in the chest; new confusion; inability to wake or stay awake; pale, gray, or blue-colored skin, lips or nail beds, depending on skin tone → refer immediately to local emergency department or call 911
    2. For hypoxia (< 94% or < 91% for those patients reporting lower baseline oxygen readings): headache; shortness of breath; fast heartbeat; coughing; wheezing; confusion; bluish color in skin, fingernails, and lips → refer immediately to local emergency department or call 911

The pharmacist must document the physical assessment of the patient on the Patient Self-Screening Intake Form. The pharmacy must utilize medical grade devices for physical assessment of the patient.

If referral criteria not met, proceed to Step 2.A.

2. A. *Treatment Screen* (Form Qs: #3-4)
    a. Positive SARS-CoV-2 molecular or antigen test within 14 days associated with current symptoms?[1]

    **AND**

    b. Onset of mild to moderate COVID-19 symptoms within past 10 days?[2]

If YES to BOTH questions above, proceed to Step 3.

If NO to EITHER question above, proceed to Step 2.B.

B. *Post-Exposure Prophylaxis Screen* (Form Qs: #5-6, 7I)
    a. Has the patient been in close contact of someone with COVID-19 disease within the last 96 hours, or living in a setting where risk of exposure is high?[3]

[1] Test results that are indeterminate or inconclusive results can suggest the presence of SARS-CoV-2 in quantities insufficient for the molecular or antigen test to be positive. It is recommended to collect a new specimen and retest. If the results are still indeterminate or inconclusive, the patient should be referred to their healthcare provider for further evaluation.
[2] Fever or chills; cough; shortness of breath or difficulty breathing; fatigue; muscle or body aches; headache; new loss of taste or smell; sore throat; congestion or runny nose; nausea or vomiting; and/or diarrhea
[3] Close contact with an infected individual is defined as: being within 6 feet for a total of 15 minutes or more, providing care at home to someone who is sick, having direct physical contact with the person (e.g., hugging or kissing), sharing

**AND**

b. Is the patient:
   i. Unvaccinated OR
   ii. Partially vaccinated OR
   iii. Vaccinated but not expected to mount an adequate immune response to complete SARS-CoV-2 vaccination (for example, individuals with immunocompromising conditions including those taking immunosuppressive medications[4])?

The pharmacist must check the Iowa Immunization Registry Information System (IRIS) to determine whether the patient is fully vaccinated[5]. If IRIS is unavailable, use available documentation and patient statement. The patient should not be vaccinated until 90 days after last receipt of COVID-19 Monoclonal Antibodies (REGEN-COV™).

If YES to BOTH questions above, proceed to Step 3.

If NO to EITHER question above, COVID monoclonal antibodies (mAb) treatment is not indicated at this time and pharmacists are not authorized to order or administer COVID mAb treatment in accordance with this protocol. → Refer the patient for further evaluation and management by the patient's primary care provider. If patient has not had a SARS-CoV-2 molecular or antigen test, obtain test and repeat Step 2.A once results are available.

3. *Risk of Progression Screen* (Form Qs: #7, demographics)

eating or drinking utensils, or being exposed to respiratory droplets from an infected person (e.g., sneezing or coughing).

[4] The CDC defines moderate to severe immunocompromised as the following:

- Been receiving active cancer treatment for tumors or cancers of the blood
- Received an organ transplant and are taking medicine to suppress the immune system
- Received a stem cell transplant within the last 2 years or are taking medicine to suppress the immune system
- Moderate or severe primary immunodeficiency (such as DiGeorge syndrome, Wiskott-Aldrich syndrome)
- Advanced or untreated HIV infection
- Active treatment with high-dose corticosteroids or other drugs that may suppress the immune response

https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/immuno.html

[5] Individuals are considered to be fully vaccinated 2 weeks after their final dose of a multi-dose series, or 2 weeks after a single-dose vaccine. For additional information, visit https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/fully-vaccinated-people.html

A. Does the patient have at least one of the conditions or factors met in #7 of the Self-Screening Patient Intake Form which places an individual at high risk of progression to severe COVID-19?
B. Does the patient identify as Black, African American, Latina/o/x, American Indian/Alaska Native, Asian, Asian American, or Pacific Islander on the Self-Screening Patient Intake Form that places an individual at high risk of progression to severe COVID-19?[6]

The pharmacist must obtain patient weight and height and calculate the patient's BMI[7] to verify condition of overweight/obese in #7M on the Self-Screening Patient Intake Form.

If YES to EITHER question above, proceed to Step 4.

If NO to BOTH questions above, COVID monoclonal antibody (mAb) treatment is not indicated at this time and pharmacists are not authorized to order or administer COVID mAb treatment in

[6] Other factors, such as race, ethnicity, disability or homelessness place individual patients at high risk for progression to severe COVID-19. Data indicates that:

- Patients of color or from tribal communities are most harmed by health inequities and the risk of hospitalization and death for these groups is greater than that of white patients. These patients may face higher risk than white patients, due to longstanding societal injustices including racism, discrimination, colonization, etc., which have and continue to negatively impact health outcomes. For this reason, people who identify as Black/African American, Latino/a/x, American Indian/Alaska Native, Asian or Pacific Islander are eligible for REGEN-COV™ under this protocol.
- Patients with the following disabilities might be at increased risk of becoming infected or having unrecognized illness or progression to severe disease.
    - People who have limited mobility or who cannot avoid coming into close contact with others who may be infected, such as direct support providers and family members
    - People who have trouble understanding information or practicing preventative measures, such as hand washing and social distancing
    - People who may not be able to communicate symptoms of illness
    - https://www.cdc.gov/ncbddd/humandevelopment/covid-19/people-with-disabilities.html
- There is increased transmission of virus in congregate settings and outdoor settings that do not provide protection from the environment, adequate access to hygiene and sanitation facilities, or connection to services and healthcare. These settings including homelessness, sleeping outdoors or in an encampment setting.

[7] https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm

accordance with this protocol. → Refer the patient for further evaluation and management by the patient's primary care provider.

4. *Allergy Screen* (Form Qs: #9)
   A. Does the patient have a known hypersensitivity to any ingredient of REGEN-COV™?

If YES → Refer the patient for further evaluation and management by the patient's primary care provider.

If NO, proceed to Section VII (Patient Education).

## VII. Patient education required

The pharmacist shall document that the pharmacist communicated to the patient or parent/caregiver, as age appropriate, information consistent with the "Fact Sheet for Patients, Parents, and Caregivers – Emergency Use Authorization (EUA) of REGEN-COV™" and provided a copy of the Fact Sheet to the patient or parent/caregiver prior to the patient receiving REGEN-COV™, including:

a. FDA has authorized the emergency use of REGEN-COV™ for the two indications described in this protocol.
b. The patient or parent/caregiver has the option to accept or refuse REGEN-COV™.
c. The significant known and potential risks and benefits of REGEN-COV™, and the extent to which such risks and benefits are unknown.
d. Information on available alternative treatments[8] and the risks and benefits of those alternatives, including clinical trials[9].
e. Patients treated with REGEN-COV™
   i. should continue to self-isolate and use infection control measures (e.g., wear mask, isolate, social distance, avoid sharing personal items, clean and disinfect "high touch" surfaces, and frequent handwashing) according to CDC guidelines and
   ii. may not be vaccinated for COVID-19 until 90 days after treatment with REGEN-COV™.

## VIII. Medication administration

A. *Dosing*.

[8] Intravenous mAb therapy is preferred for treatment of COVID-19 unless it would result in a delay of therapy. Refer to Fact Sheet for Healthcare Providers – Emergency Use Authorization (EUA) of REGEN-COV™ for other alternatives.
[9] For information on clinical trials that are testing the use of REGEN-COV™ related to COVID-19, please see www.clinicaltrials.gov.

a. Treatment Dosage. Casirivimab 600 mg and imdevimab 600 mg administered together by subcutaneous injection as soon as possible after positive SARS-CoV-2 viral testing and within 10 days of mild or moderate symptom[10] onset.
b. Post-Exposure Prophylaxis Dosage. Casirivimab 600 mg and imdevimab 600 mg administered together by subcutaneous injection as soon as possible after exposure to SARS-CoV-2. The clinical trial leading to authorization studied patients that were dosed within 96 hours of exposure.
c. Repeat Dosing Dosage. The pharmacist may order repeat dosing for individuals with ongoing exposure[11] to SARS-CoV-2 for longer than 4 weeks and who are not expected to mount an adequate immune response to complete SARS-CoV-2 vaccination. Following the initial subcutaneous dose of casirivimab 600 mg and imdevimab 600 mg, dosing of casirivimab 300 mg and imdevimab 300 mg by subcutaneous injection is repeated once every 4 weeks for the duration of the ongoing exposure.
d. Dosing Adjustments. No dosage adjustment is recommended in pregnant or lactating women and in patients with renal impairment.

B. *Preparation of Subcutaneous Injection*.

Remove the casirivimab and imdevimab vial(s) from refrigerated storage and allow to equilibrate to room temperature for approximately 20 minutes before preparation. **Do not expose to direct heat. Do not shake the vials.**

Inspect casirivimab and imdevimab vial(s) for particulate matter and discoloration prior to administration. Should either be observed, the vial must be discarded and replaced with a new vial. The solution for each vial should be clear to slightly opalescent, colorless to pale yellow.

1. Casirivimab and imdevimab should be prepared using the appropriate number of syringes (see Table 1 for treatment/post-exposure prophylaxis dosing or Table 2 for repeat dosing). Obtain 3 ml or 5 ml polypropylene Luer Lock syringes with luer connection and 21-guage 1 ½ inch transfer needles.
2. Withdraw the appropriate amount of solution into each syringe (see Table 1). Prepare all syringes at the same time.
3. Replace the 21-gauge transfer needle with a 25-gauge or 27-gauge needle for subcutaneous injection.
4. This product is preservative-free and, therefore, the prepared syringes should be administered immediately. If immediate administration is not possible, store the prepared casirivimab and imdevimab syringes in the refrigerator between 2 °C to

[10] Mild or moderate COVID-19 symptoms may include: fever or chills; cough; shortness of breath or difficulty breathing; fatigue; muscle or body aches; headache; new loss of taste or smell; sore throat; congestion or runny nose; nausea or vomiting; and/or diarrhea.
[11] Ongoing exposure is any resident in a congregate care setting with active exposure or repeated exposure to household contact with COVID.

8 °C (36 °F to 46 °F) for no more than four (4) hours or at room temperature up to 25 °C (77 °F) for no more than four (4) total hours. If refrigerated, allow the syringes to equilibrate to room temperature for approximately 20 minutes prior to administration.

Table 1. Preparation of casirivimab 600 mg and imdevimab 600 mg for SQ injections.

| Prepare casirivimab 600 mg and imdevimab 600 mg | Preparation of **4 syringes** |
|---|---|
| Using casirivimab and imdevimab *Co-Formulated Vial:* | Withdraw 2.5 ml solution per syringe into FOUR separate syringes. |
| Using casirivimab and imdevimab *Individual Vials:* | For FOUR (4) total syringes:<br>• Casirivimab: withdraw 2.5 ml solution per syringe into TWO separate syringes.<br>• Imdevimab: withdraw 2.5 ml solution per syringe into TWO separate syringes. |

Table 2. Preparation of casirivimab 300 mg and imdevimab 300 mg for SQ injections for repeat dosing[12].

| Prepare casirivimab 300 mg and imdevimab 300 mg | Preparation of **2 syringes** |
|---|---|
| Using casirivimab and imdevimab *Co-Formulated Vial:* | Withdraw 2.5 ml solution per syringe into TWO separate syringes. |
| Using casirivimab and imdevimab *Individual Vials:* | For TWO (2) total syringes:<br>• Casirivimab: withdraw 2.5 ml solution into ONE syringe.<br>• Imdevimab: withdraw 2.5 ml solution into ONE syringe. |

C. *Administration of Subcutaneous Injection*:

Administer the subcutaneous injections consecutively, each at a different injection site, into the thigh, back of the upper arm, or abdomen, except for 2 inches (5 cm) around the navel. The waistline should be avoided.

When administering the subcutaneous injections, it is recommended that providers use different quadrants of the abdomen or upper thighs or back of the upper arms to space apart each 2.5 ml

[12] Subsequent repeat dosing every 4 weeks for the duration of ongoing exposure after the initial casirivimab 600 mg and imdevimab 600 mg doses.

subcutaneous injection of casirivimab and imdevimab. DO NOT inject into skin that is tender, damaged, bruised, or scarred.

## IX. Monitoring and follow-up

Ask patient to remain seated in the area for 60 minutes after administering therapy to decrease the risk of injury should they faint and for the pharmacist to monitor for visible signs of drug reactions and for anaphylaxis.

Pharmacists must submit a report on all medication errors and any witnessed or known SERIOUS ADVERSE EVENTS potentially related to REGEN-COV™. See Section XIII (Adverse reactions and medication errors reporting requirements and instructions).

A. *Hypersensitivity reactions including anaphylaxis.*
    a. REGEN-COV™ may only be administered in settings in which pharmacists have immediate access to medications to treat severe hypersensitivity reactions, such as anaphylaxis, and the ability to activate the emergency medical system (EMS), as necessary.
    b. If signs or symptoms of a clinically significant hypersensitivity reaction or hypersensitivity occur, pharmacists must immediately discontinue administration and follow the Iowa Board of Pharmacy Immunization Statewide Protocol – Management of Adverse Reactions.
B. *Clinical worsening after administration*. Clinical worsening of COVID-19 after administration of REGEN-COV™ has been reported and may include signs or symptoms of fever, hypoxia or increased respiratory difficulty, arrhythmia (e.g., atrial fibrillation, tachycardia, bradycardia), fatigue, and altered mental status. Some of these events required hospitalization. It is not known if these events were related to REGEN-COV™ use or were due to progression of COVID-19.
C. *Adverse effects*. See Clinical Summary in Appendix B for a summary of adverse effects noted in clinical trials. Additional adverse events associated with REGEN-COV™, some of which may be serious, may become apparent with more widespread use.

## X. Protocol, facility and equipment

A pharmacist who orders and administers CLIA-waived COVID testing and administers COVID therapies pursuant to this protocol shall maintain a current copy of this protocol and an appropriately private area for patient testing, administration, observation and counseling at each location at which the pharmacist engages in the protocol activities. A pharmacist shall ensure that the adequate supplies are readily available when engaged in the activities identified in this protocol.

## XI. Documentation

The pharmacist shall maintain documentation of the Patient Self-Screening Intake Form, and patient information utilized in accordance with this protocol to initiate COVID diagnostic testing and, when appropriate, initiate monoclonal antibody therapy. The pharmacist shall also document that the patient or parent/caregiver has been:

1. Given the "Fact Sheet for Patients, Parents, and Caregivers – Emergency Use Authorization (EUA) of REGEN-COV™,
2. Informed of alternatives to receiving REGEN-COV™,
3. Informed that REGEN-COV™ is an unapproved drug that is authorized for use under Emergency Use Authorization and this protocol, and
4. Followed up on (phone consultation permitted) within 7 days

## XII. Notification

A. The ordering pharmacist shall report therapeutics information and utilization data through HHS TeleTracking each Wednesday as directed by the United States Department of Health and Human Services.
B. The ordering pharmacist shall notify the patient's primary care provider (if known) within 5 days of therapy administration on the form provided in Appendix C.

## XIII. Adverse reactions and medication errors reporting requirements and instructions

A. *Required reporting*. The ordering pharmacist is responsible for mandatory reporting of all medication errors and any witnessed or known serious adverse events[13] potentially related to treatment within seven (7) calendar days from the onset of the event to the patient's primary care provider (if known) and FDA MedWatch.
B. *Reporting to MedWatch.*
    a. Manners of submission. Submission of adverse event reports to FDA MedWatch shall occur using one of the following methods:
        i. Complete and submit the report online at www.fda.gov/medwatch/report.htm, or
        ii. Complete and submit a postage-paid FDA Form 3500 (https://www.fda.gov/media/76299/download) and return by:
            1. Mail to MedWatch, 5600 Fishers Lane, Rockville, MD 20852-9787, or
            2. Fax to 1-800-FDA-0178, or
        iii. Call 1-800-FDA-1088 to request a reporting form.

[13] Serious adverse events are defined as:
- Death;
- Life-threatening adverse event;
- Inpatient hospitalization or prolongation of existing hospitalization;
- Persistent or significant incapacity or substantial disruption of the ability to conduct normal life functions;
- Congenital anomaly/birth defect;
- Medical or surgical intervention to prevent death, a life-threatening event, hospitalization, disability, or congenital anomaly.

b. Content of MedWatch reports. When reporting adverse events or medication errors to MedWatch, the pharmacist shall ensure the entire form is completed with detailed information. Information to include:
    i. Patient demographics (e.g., patient initials, date of birth),
    ii. Pertinent medical history,
    iii. Pertinent details regarding admission and course of illness,
    iv. Concomitant medications,
    v. Timing of adverse event(s) in relation to REGEN-COV™ administration,
    vi. Pertinent laboratory and virology information,
    vii. Outcome of the event and any additional follow-up information if it is available at the time of the MedWatch report[14],
    viii. Unique identifiers, and
    ix. In the "Describe Event, Problem, or Product Use/Medication Error" field, the words "REGEN-COV™ use for COVID-19 under Emergency Use Authorization (EUA)".
c. Responses to FDA. The ordering pharmacist is responsible for mandatory responses to requests from FDA for information about adverse events and medication errors following receipt of REGEN-COV™.
d. Reporting to Regeneron. The ordering pharmacist is responsible for providing a copy of all FDA MedWatch forms to Regeneron Pharmaceuticals, Inc. by:
    i. Fax to 1-888-876-2736,
    ii. Email to medical.information@regeneron.com, or
    iii. Call 1-844-734-6643 to report adverse events.

## XIV. Effective date

This protocol is effective XXXX, 2021, and shall be in effect until amended or terminated by the board.

[14] Subsequent reporting of follow-up information should be completed if additional details become available.

# APPENDIX A: COVID Monoclonal Antibodies (REGEN-COV™) Self-Screening Patient Intake Form

**(CONFIDENTIAL-Protect ed Health Information)**

Date _____/_____/_____ Date of Birth _____/_____/_____ Age_____
Legal Name_____ Preferred Name _____
Sex Assigned at Birth (circle) M / F Gender Identification (circle) M / F / Other____
Preferred Pronouns (circle) She/Her/Hers, He/Him/His, They/Them/Their, Ze/Hir/Hirs, Other_____
Street Address _____
Phone ( ) _____ Email Address _____
Healthcare Provider Name _____ Phone ( ) _____ Fax ( ) _____
Do you have health insurance? Yes / No Insurance Provider Name _____
Any allergies to medications? Yes / No If yes, please list _____
Which of the following describes your racial or ethnic identity? Please check **ALL** that apply.
□ Black/African American □ Hispanic and Latino/a/x □ American Indian/Alaska Native □ Asian □ Other
□ Native Hawaiian/Pacific Islander □ Middle Eastern/North African □ White □ Not specified
Are you houseless? Yes / No
Do you live in a shelter, encampment or transitional housing? Yes / No
Do you have a disability? Yes / No

**Background Information:**

| | | |
|---|---|---|
| 1. | Are you under 12 years old? | □ Yes □ No |
| 2. | Do you weigh under 88 lbs (40 kg)? | □ Yes □ No |
| 3. | Have you had a positive COVID (SARS-CoV-2) antigen test within the past 14 days? If yes, please indicate the date of the positive test ___/___/_____. | □ Yes □ No |
| 4. | In the past 10 days, have you experienced new or worsening of any of the following symptoms within the past 10 days? If yes, select any/all that apply:<br>□ Fever □ Chills □ Cough □ Shortness of breath □ Difficulty breathing □ Fatigue □ Headache<br>□ Muscle or body aches □ New loss of taste or smell □ Sore throat □ Congestion □ Runny nose<br>□ Nausea □ Vomiting □ Diarrhea | □ Yes □ No |
| 5. | Have you been in close contact of someone with COVID-19 disease within the last 96 hours (4 days), or living in a setting where risk of exposure is high?<br><br>Note: Close contact with an infected individual is defined as: being within 6 feet for a total of 15 minutes or more, providing care at home to someone who is sick, having direct physical contact with the person (e.g., hugging or kissing), sharing eating or drinking utensils, or being exposed to respiratory droplets from an infected person (e.g., sneezing or coughing) | □ Yes □ No |
| 6. | Are you fully vaccinated for COVID-19? If yes, indicate when<br>Brand/Dose 1: _____ Brand/Dose 2: _____ Brand/Dose 3: _____ | □ Yes □ No |
| 7. | Do you have or have you had any of the following? | |
| | A. Age ≥65 years of age…… | □ Yes □ No |
| | B. Cancer…… | □ Yes □ No |
| | C. Chronic kidney disease…… | □ Yes □ No |
| | D. Chronic lung diseases (e.g., chronic obstructive pulmonary disease, asthma [moderate-to-severe], interstitial lung disease, cystic fibrosis and pulmonary hypertension)…… | □ Yes □ No |
| | E. Dementia or other neurological conditions…… | □ Yes □ No |
| | F. Diabetes (Type 1 or Type 2) …… | □ Yes □ No |
| | G. Heart conditions (such as heart failure, coronary artery disease, cardiomyopathies or hypertension) …… | □ Yes □ No |
| | H. HIV Infection…… | □ Yes □ No |
| | I. Immunocompromised state (weakened immune system) …… | □ Yes □ No |
| | J. Liver Disease…… | □ Yes □ No |
| | K. Medical-related technological dependence (e.g., tracheostomy, gastrostomy, or oxygen supplementation (not related to COVID 19)…… | □ Yes □ No |
| | L. Neurodevelopmental disorders (e.g., cerebral palsy, intellectual or developmental disabilities including down syndrome) or other conditions that confer medical complexity (e.g., genetic or metabolic syndromes and severe congenital anomalies)…… | □ Yes □ No |

# COVID Monoclonal Antibodies (REGEN-COV™) Self-Screening Patient Intake Form

**(CONFIDENTIAL-Protected Health Information)**

| | | |
|---|---|---|
| | M. Overweight or obese…… | □ Yes □ No |
| | N. Pregnancy…… | □ Yes □ No |
| | O. Sickle cell disease or thalassemia…… | □ Yes □ No |
| | P. Smoking, current or former…… | □ Yes □ No |
| | Q. Solid organ or blood stem cell transplant…… | □ Yes □ No |
| | R. Stroke or cerebrovascular disease, which affects blood flow to the brain…… | □ Yes □ No |
| | S. Substance use disorders…… | □ Yes □ No |
| 8. | Do you have any other medical problems? If yes, list them here:<br>_____<br>_____ | □ Yes □ No |
| 9. | Are you allergic to casirivimab, imdevimab, histidine, histidine monohydrochloride monohydrate , polysorbate 80, or sucrose? If yes, please circle allergy. | □ Yes □ No |
| 10. | Do you have any other allergies? If yes, list them here:<br>_____<br>_____ | □ Yes □ No |
| 11. | Do you take any medications, including herbs or supplements? If yes, list them here:<br>_____<br>_____ | □ Yes □ No |

Signature_____ Date ____/_____/_____

**To Be Completed by a Pharmacist:**

1. Weight _____ lbs. Height __ ft. ___ in. BMI _____
2. Oxygen Reading _____% SpO2, Respiratory Rate ____/min
3. Blood Pressure Reading _____/_____ mmHg, Pulse ____/min
4. Vaccination status in #6 should be confirmed via IRIS or CDC immunization card or self-reported (circle one)

If patient received therapy:

1. EUA Fact Sheet for Patients, Parents and Caregivers Provided: Version Date____/_____
2. Dose (check box and circle indication):
   - □ Casirivimab 600 mg and imdevimab 600 mg for treatment or post-exposure prophylaxis **-or-**
   - □ Casirivimab 300 mg and imdevimab 300 mg for ongoing exposure **-or-**
   - □ *Partial dose administered: Casirivimab _____mg and imdevimab _____mg due to: _____
3. Product/Lot: _____ Expiration: ___/___/_____ Product/Lot: _____ Expiration: ___/___/_____
4. Injection Sites:
   - □ R thigh □ R back of the upper arm □ Upper R quadrant of abdomen □ Lower R quadrant of abdomen
   - □ L thigh □ L back of the upper arm □ Upper L quadrant of abdomen □ Lower L quadrant of abdomen
5. Time Administration Began: ____:_____ AM/PM Time Administration Ended: ____:_____ AM/PM
6. Time Monitoring* Began: ____:_____ AM/PM Time Monitoring Ended: ____:_____ AM/PM
   *NOTE: 60 minutes of monitoring is still required even in patient received an incomplete dose.
7. Primary Care Provider (if known) contacted/notified of therapy Date _____/_____/_____
8. FDA MedWatch Report submitted (if adverse event occurred) Date _____/_____/_____

RPH Signature_____ Date ____/_____/_____

9. Follow-up with patient completed on Date ____/_____/_____

RPH Signature_____ Date ____/_____/_____

# APPENDIX B: Standardized Assessment and Treatment Care Pathway
# COVID Monoclonal Antibodies (REGEN-COV™)

Clinical Summary

Reference: REGEN-COV™ (casirivimab and imdevimab) [Emergency Use Authorization Fact Sheet for Health Care Providers]. Tarrytown, NY: Regeneron Pharmaceuticals, Inc. July 2021. Available at https://www.regeneron.com/downloads/treatment-covid19-eua-fact-sheet-for-hcp.pdf

Overall, approximately 16,000 subjects have been exposed to REGEN-COV™ (casirivimab and imdevimab) in clinical trials in hospitalized and non-hospitalized subjects. Approximately 13,500 subjects received intravenous infusions and 2,500 subjects received subcutaneous injections.

The safety of REGEN-COV™ (casirivimab and imdevimab) is based on analyses from:

- COV-2067, a Phase 1/2/3 trial of ambulatory (non-hospitalized) subjects with COVID-19;
- COV-2069, a Phase 3 post-exposure prophylaxis trial for prevention of COVID-19; and
- COV-2093, a Phase 1 trial evaluating the safety and pharmacokinetics of REGEN-COV™ repeat subcutaneous dosing every 4 weeks for 24 weeks.

COV-2067 :

This is a randomized, double-blind, placebo-controlled clinical trial (NCT04425629) in subjects with mild to moderate COVID-19. In the phase 3 portion of the trial, subjects were treated with a single intravenous infusion of 600 mg of casirivimab and 600 mg of imdevimab (n=827), or 1,200 mg of casirivimab and 1,200 mg of imdevimab (n=1,849) (unauthorized dose under EUA), or 4,000 mg of casirivimab and 4,000 mg of imdevimab (n=1,012) (unauthorized dose under EUA), or placebo (n=1,843).

At baseline, in all randomized subjects with at least one risk factor, the median age was 50 years (with 13% of subjects ages 65 years or older), 52% of the subjects were female, 84% were White, 36% were Hispanic or Latino, and only 5% were Black or African American. In subjects with available baseline symptom data, 15% had mild symptoms, 42% had moderate, 42% had severe symptoms, and 2% reported no symptoms at baseline; the median duration of symptoms was 3 days.

The primary endpoint was the proportion of subjects with ≥1 COVID-19-related hospitalization or all-cause death through Day 29. The results for subjects treated with 600 mg of casirivumab and 600 mg of imdevimab compared to placebo are outlined in **Table 1**.

**Table 1. Total Events (COVID-19-related hospitalization or all-cause death) through Day 29.**

| | Casirivumab 600 mg and Imdevimab 600 mg (IV) (n=736) | Placebo (n=748) |
|---|---|---|
| COVID-19-related hospitalization or all-cause death | 7 (1.0%) | 24 (3.2%) |
| Relative Risk Reduction | 70% (p=0.0024) | |
| Absolute Difference | 2.2%, NNT = 46 | |

Abbreviations: IV = intravenous; NNT = number needed-to-treat to prevent one event COVID-19-related hospitalization or all-cause death.

In pooled phase 1/2/3 analysis, infusion-related reactions (adverse event assessed as causally related by the investigator) of grade 2 or higher severity have been observed in 10/4,206 (0.2%) of those who received REGEN-COV™ at the authorized dose or a higher dose. The infusion was permanently discontinued in 4 subjects who developed infusion-related reactions (urticaria, pruritus, flushing,

pyrexia, shortness of breath, chest tightness, nausea, vomiting, rash) but each received doses higher than what is authorized under EUA.

Anaphylactic reactions have been reported in subjects receiving REGEN-COV™. The events began within 1 hour of completion of the infusion, and in at least one case required treatment including epinephrine. The events resolved.

COV-2069:

This is a Phase 3, randomized, double-blind, placebo-controlled clinical trial (NCT04452318) that assessed the efficacy and safety of REGEN-COV™ (casirivimab and imdevimab) for post-exposure prophylaxis of COVID-19 in household contacts of individuals infected with SARS-CoV-2. The trial enrolled subjects who were asymptomatic and who lived in the same household with a SARS-CoV-2 infected patient. Subjects who were SARS-CoV-2 negative (PCR negative and seronegative) at baseline were enrolled and received a single dose of 600 mg of casirivimab and 600 mg of imdevimab subcutaneously (n=751) or placebo (n=752). Subjects who were SARS-CoV-2 positive at baseline were enrolled in Cohort B and received a single dose of 600 mg of casirivimab and 600 mg of imdevimab subcutaneously or placebo.

Cohort A:

At baseline, the median age was 44 years (with 9% of subjects ages 65 years or older), 54% of the subjects were female, 86% were White, 41% were Hispanic or Latino, and 9% were Black or African American. The primary efficacy endpoint was the proportion of subjects who developed PCR-confirmed COVID-19 through Day 29. The results for subjects treated with 600 mg of casirivumab and 600 mg of imdevimab compared to placebo are outlined in **Table 2**. In a post-hoc analysis in a subgroup of subjects who met the criteria for high risk for progression to severe COVID-19, there was a 76% relative risk reduction in COVID-19 with REGEN-COV™ treatment versus placebo [10/570 (2%) vs. 42/567 (7%); adjusted odds ratio 0.22; p<0.0001].

**Table 2. Total PCR-confirmed Positive COVID-19 Test through Day 29.**

| | Casirivumab 600 mg and Imdevimab 600 mg SC (n=753) | Placebo (n=752) |
|---|---|---|
| PCR-confirmed Positive COVID-19 Test | 11 (1.5%) | 59 (7.8%) |
| Relative Risk Reduction | 81% (Adjust OR = 0.17; p<0.0001) | |
| Absolute Difference | 6.3%, NNT = 16 | |

Abbreviations: NNT = number needed-to-treat to prevent one positive COVID-19 infection; SC = subcutaneous.

Adverse events were reported in 265 subjects (20%) in the REGEN-COV™ group and 379 subjects (29%) in the placebo group. Injection site reactions (all grade 1 and 2) occurred in 55 subjects (4%) in the REGEN-COV™ group and 19 subjects (2%) in the placebo group. The most common signs and symptoms of injection site reactions which occurred in at least 1% of subjects in the REGEN-COV™ group were erythema and pruritus. Hypersensitivity reactions occurred in 2 subjects (0.2%) in the REGEN-COV™ group and all hypersensitivity reactions were grade 1 in severity. There were no cases of anaphylaxis.

Cohort B:

In a post-hoc analysis of the overall combined Cohort A and Cohort B (regardless of serology status at baseline), there was a 62% risk reduction in COVID-19 with REGEN-COV™ treatment versus placebo [46/1201 (4%) vs. 119/1177 (10%); adjusted odds ratio 0.35; p<0.0001].

Adverse events were reported in 52 subjects (34%) in the REGEN-COV™ group and 75 subjects (48%) in the placebo group. Injection site reactions, all of which were grade 1 or 2, occurred in 6 subjects (4%) in the REGEN-COV™ group and 1 subject (1%) in the placebo group. The most common signs and symptoms of injection site reactions which occurred in at least 1% of subjects in the REGEN-COV™ group were ecchymosis and erythema. There were no cases of hypersensitivity reaction or anaphylaxis.

COV-2093:

This is a randomized double-blind, placebo-controlled Phase 1 trial evaluating the safety, pharmacokinetic and immunogenicity of repeated doses of 600 mg of casirivimab and 600 mg of imdevimab administered subcutaneously in healthy adult subjects. Subjects were randomized 3:1 to REGEN-COV™ (n=729) or placebo (n=240) administered every 4 weeks for 24 weeks. Adverse events were reported in 380 subjects (52%) in the REGEN-COV™ group and 111 subjects (46%) in the placebo group. Injection site reactions occurred in 12% and 4% of subjects following single dose administration in the REGEN-COV™ and placebo groups, respectively.

With repeat dosing, injection site reactions occurred in 252 subjects (35%) in the REGEN-COV™ group and 38 subjects (16%) in the placebo group; all injection site reactions were grade 1 or 2 in severity. Hypersensitivity reactions occurred in 8 subjects (1%) in the REGEN-COV™ group; and all hypersensitivity reactions were grade 1 or 2 in severity. There were no cases of anaphylaxis.

# APPENDIX C: Provider Notification
# COVID Monoclonal Antibodies (REGEN-COV™) Administration

Pharmacy Name:_____

Pharmacy Address:_____

Pharmacy Phone: _____ Pharmacy Fax: _____

Dear Provider_____ (name), (____) _____ -_____ (FAX)

Your patient _____(name) _____/_____/_____ (DOB) was:

☐ **Prescribed and administered COVID Monoclonal Antibodies** (REGEN-COV™) at our Pharmacy noted above. The prescription issued and administered consisted of:

- ☐ Treatment of COVID-19: Casirivimab 600 mg and imdevimab 600 mg (REGEN-COV™) administered subcutaneously by the Pharmacist for initial treatment of SARS-CoV-2. Prior to prescribing and administration of COVID Monoclonal Antibodies (REGEN-COV™) for treatment of COVID-19, your patient was tested for and/or indicated the following:

| Test Name | Date of Test | Result |
|---|---|---|
| SARS-CoV-2 (molecular or antigen) | 1) _____/_____/_____ | □ reactive □ *indeterminate/inconclusive* □ negative |
| | 2*) _____/_____/_____ | □ reactive □ *indeterminate/inconclusive* □ negative |

*2nd test only required if 1st test is *indeterminate/inconclusive*

- ☐ Post-Exposure Prophylaxis of COVID-19: Casirivimab 600 mg and imdevimab 600 mg (REGEN-COV™) administered subcutaneously by the Pharmacist as soon as possible after exposure to SARS-CoV-2.
- ☐ Ongoing Exposure: Casirivimab 300 mg and imdevimab 300 mg (REGEN-COV™) administered subcutaneously by the Pharmacist for ongoing exposure to SARS-CoV-2 lasting longer than 4 weeks.

Your patient was:

- Provided with the FDA EUA REGEN-COV™ Fact Sheet for Patients, Parents, & Caregivers https://www.regeneron.com/downloads/treatment-covid19-eua-fact-sheet-for-patient.pdf
- Informed that an office visit with you or another provider on your team is recommended after monoclonal antibody administration.
- For treatment or post-exposure prevention of COVID-19, the patient was also advised that they should continue to self-isolate and use infection control measures (e.g., wear mask, isolate, social distance, avoid sharing personal items, clean and disinfect "high touch" surfaces, and frequent handwashing) according to CDC guidelines.
- For post-exposure prophylaxis, the patient was also informed that REGEN-COV™ does not replace vaccination against COVID-19 and, if applicable, they may not be vaccinated for COVID-19 until 90 days after treatment with REGEN-COV™.

☐ **Tested for SARS-CoV-2 (molecular or antigen) twice, both results were *indeterminate or inconclusive* and therefore the patient is being referred to you for follow-up**. COVID monoclonal antibodies were not prescribed or administered to your patient.

If you have further questions: Please contact the prescribing pharmacy or call Regeneron Medical Information Department at 1-844-REGN-MID (1-844-734-6643). Clinicians can review the NIH COVID-19 Treatment Guidelines as well as the FDA EUA for the therapy.

- NIH COVID-19 Treatment Guidelines: https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/hospitalized-adults--therapeutic-management/
- FDA EUA for REGEN-COV™: https://www.regeneron.com/downloads/treatment-covid19-eua-fact-sheet-for-hcp.pdf