

### What is CASGEVY?

CASGEVY is a one-time therapy used to treat people aged 12 years and older with sickle cell disease (SCD) who have frequent vaso-occlusive crises or VOCs.

CASGEVY is made specifically for each patient, using the patient's own edited blood stem cells, and increases the production of a special type of hemoglobin called hemoglobin F (fetal hemoglobin or HbF). Having more HbF increases overall hemoglobin levels and has been shown to improve the production and function of red blood cells. This can eliminate VOCs in people with SCD.

### IMPORTANT SAFETY INFORMATION

### What is the most important information I should know about CASGEVY?

After treatment with CASGEVY, you will have fewer blood cells for a while until CASGEVY takes hold (engrafts) into your bone marrow. This includes low levels of platelets (cells that usually help the blood to clot) and white blood cells (cells that usually fight infections). Your doctor will monitor this and give you treatment as required. The doctor will tell you when blood cell levels return to safe levels.



In this brochure, you'll learn about how CASGEVY™ (cas-jeh-vee) works, what it may do for you, what the potential side effects are, and how you will receive it.

Throughout the brochure you will see important words to know. These words are underlined and bolded the first time they appear. You can click the word to see its definition in the glossary on page 17.

Read on and get **W**formed!

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### **IMPORTANT SAFETY INFORMATION (continued)** What is the most important information I should know about CASGEVY? (continued)

- Tell your healthcare provider right away if you experience any of the following, which could be signs of low levels of platelet cells:
- severe headache
- abnormal bruisina
- prolonged bleeding

- bleeding without injury such as nosebleeds; bleeding from gums; blood in your urine, stool, or vomit; or coughing up blood
- Tell your healthcare provider right away if you experience any of the following, which could be signs of low levels of white blood cells:
  - fever
  - chills
  - infections



### **Important Safety Information**



What is CASGEVY™?

CASGEVY is a one-time therapy used to treat people aged 12 years and older with sickle cell disease (SCD) who have frequent vaso-occlusive crises or VOCs.

CASGEVY is made specifically for each patient, using the patient's own edited blood stem cells, and increases the production of a special type of hemoglobin called hemoglobin F (fetal hemoglobin or HbF). Having more HbF increases overall hemoglobin levels and has been shown to improve the production and function of red blood cells. This can eliminate VOCs in people with SCD.



What is the most important information I should know about CASGEVY? After treatment with CASGEVY, you will have fewer blood cells for a while until CASGEVY takes hold (engrafts) into your bone marrow. This includes low levels of platelets (cells that usually help the blood to clot) and white blood cells (cells that usually fight infections). Your doctor will monitor this and give you treatment as required. The doctor will tell you when blood cell levels return to safe levels.

- Tell your healthcare provider right away if you experience any of the following, which could be signs of low levels of platelet cells:
  - severe headache
  - abnormal bruising
  - prolonged bleeding
  - bleeding without injury such as nosebleeds; bleeding from gums;
     blood in your urine, stool, or vomit; or coughing up blood
- **Tell your healthcare provider right away** if you experience any of the following, which could be signs of low levels of white blood cells:
  - fever
  - chills
  - infections

You may experience side effects associated with other medicines administered as part of the treatment regimen with CASGEVY. Talk to your physician regarding those possible side effects. Your healthcare provider may give you other medicines to treat your side effects.



## Important Safety Information (continued)



How will I receive CASGEVY™?

Your healthcare provider will give you other medicines, including a conditioning medicine, as part of your treatment with CASGEVY. It's important to talk to your healthcare provider about the risks and benefits of all medicines involved in your treatment.

After receiving the conditioning medicine, it may not be possible for you to become pregnant or father a child. You should discuss options for fertility preservation with your healthcare provider before treatment.

**STEP 1:** Before CASGEVY treatment, a doctor will give you a mobilization medicine. This medicine moves blood stem cells from your bone marrow into the blood stream. The blood stem cells are then collected in a machine that separates the different blood cells (this is called apheresis). This entire process may happen more than once. Each time, it can take up to one week.

During this step, rescue cells are also collected and stored at the hospital. These are your existing blood stem cells and are kept untreated just in case there is a problem in the treatment process. If CASGEVY cannot be given after the conditioning medicine, or if the modified blood stem cells do not take hold (engraft) in the body, these rescue cells will be given back to you. If you are given rescue cells, you will not have any treatment benefit from CASGEVY.

**STEP 2:** After they are collected, your blood stem cells will be sent to the manufacturing site where they are used to make CASGEVY. It may take up to 6 months from the time your cells are collected to manufacture and test CASGEVY before it is sent back to your healthcare provider.

**STEP 3:** Shortly before your stem cell transplant, your healthcare provider will give you a conditioning medicine for a few days in hospital. This will prepare you for treatment by clearing cells from the bone marrow, so they can be replaced with the modified cells in CASGEVY. After you are given this medicine, your blood cell levels will fall to very low levels. You will stay in the hospital for this step and remain in the hospital until after the infusion with CASGEVY.

**STEP 4:** One or more vials of CASGEVY will be given into a vein (intravenous infusion) over a short period of time.

After the CASGEVY infusion, you will stay in hospital so that your healthcare provider can closely monitor your recovery. This can take 4–6 weeks, but times can vary. Your healthcare provider will decide when you can go home.



## Important Safety Information (continued)



### What should I avoid after receiving CASGEVY™?

• Do not donate blood, organs, tissues, or cells at any time in the future



What are the possible or reasonably likely side effects of CASGEVY? The most common side effects of CASGEVY include:

- Low levels of platelet cells, which may reduce the ability of blood to clot and may cause bleeding
- Low levels of white blood cells, which may make you more susceptible to infection

Your healthcare provider will test your blood to check for low levels of blood cells (including platelets and white blood cells). Tell your healthcare provider right away if you get any of the following symptoms:

- fever
- chills
- infections
- severe headache
- abnormal bruising
- prolonged bleeding
- bleeding without injury such as nosebleeds; bleeding from gums;
   blood in your urine, stool, or vomit; or coughing up blood

These are not all the possible side effects of CASGEVY. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.



### General information about the safe and effective use of CASGEVY

Talk to your healthcare provider about any health concerns.



# The role of fetal hemoglobin in sickle cell disease (SCD)







## SHIFT TO ADULT HEMOGLOBIN

Shortly after people are born, fetal hemoglobin starts to be replaced by adult hemoglobin. **BCL11A** is a **gene** that tells the body to make less fetal and more adult hemoglobin.





### SCD AND HEMOGLOBIN

For people with SCD, their bodies make adult hemoglobin that does not work properly. They have red blood cells (RBCs) that turn into sickle shapes and can get stuck in blood vessels.





### **SYMPTOMS START**

When the body makes less fetal hemoglobin, SCD symptoms tend to start.

## CASGEVY™ is designed to treat SCD by increasing how much fetal hemoglobin the body makes



CASGEVY is a gene therapy that is made by editing the *BCL11A* gene. CASGEVY is made with your body's own blood stem cells that are collected and sent for editing.

So no donor is needed.

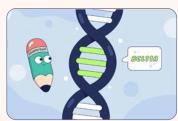




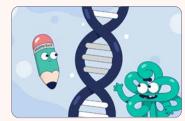
As you remember, BCL11A is a gene that tells the body to make less fetal hemoglobin and more adult hemoglobin.



<u>CRISPR/Cas9</u> is a precise <u>gene-editing</u> technology. It can find and edit parts of **DNA**.



CRISPR/Cas9 is used to edit the DNA and reduce the activity of the *BCL11A* gene.



When *BCL11A* is edited, the body can make more fetal hemoglobin. This can help stop RBCs from turning into a sickle shape.

Editing outside of the targeted gene was not observed in the modified blood stem cells of people living with SCD and healthy volunteers. The risk of editing outside of the targeted gene cannot be ruled out, due to differences in people's DNA. The impact of editing outside of the targeted gene is unknown.

Click here to learn more about how CASGEVY works.

## IMPORTANT SAFETY INFORMATION (continued) What is the most important information I should know about CASGEVY? (continued)

You may experience side effects associated with other medicines administered as part of the treatment regimen with CASGEVY. Talk to your physician regarding those possible side effects. Your healthcare provider may give you other medicines to treat your side effects.

### **How will I receive CASGEVY?**

Your healthcare provider will give you other medicines, including a conditioning medicine, as part of your treatment with CASGEVY. It's important to talk to your healthcare provider about the risks and benefits of all medicines involved in your treatment.

After receiving the conditioning medicine, it may not be possible for you to become pregnant or father a child. You should discuss options for fertility preservation with your healthcare provider before treatment.

# CASGEVY<sup>™</sup> was studied to determine the possible benefits and risks



## THE STUDY INCLUDES 44 PEOPLE WITH SCD AGED 12 TO 35 YEARS WHO RECEIVED CASGEVY

The study is open label, which means everyone who is in it knew they were receiving CASGEVY. There was no **placebo**.

### PEOPLE RECEIVED CASGEVY AT DIFFERENT TIMES

AT THE TIME THE DATA WERE REVIEWED



31 people were measured for efficacy, or how well CASGEVY worked.



Safety was measured for all 44 people.

This study is ongoing until all people reach 24 months after receiving CASGEVY.

## IMPORTANT SAFETY INFORMATION (continued) How will I receive CASGEVY? (continued)

**STEP 1:** Before CASGEVY treatment, a doctor will give you a mobilization medicine. This medicine moves blood stem cells from your bone marrow into the blood stream. The blood stem cells are then collected in a machine that separates the different blood cells (this is called apheresis). This entire process may happen more than once. Each time, it can take up to one week.

During this step, rescue cells are also collected and stored at the hospital. These are your existing blood stem cells and are kept untreated just in case there is a problem in the treatment process. If CASGEVY cannot be given after the conditioning medicine, or if the modified blood stem cells do not take hold (engraft) in the body, these rescue cells will be given back to you. If you are given rescue cells, you will not have any treatment benefit from CASGEVY.



## Freedom from severe VOCs may be possible with CASGEVY™



**35%** OF PEOPLE (29 out of 31) did not have a severe VOC for at least 12 months in a row after **CASGEVY** infusion.



### **OF PEOPLE**

(30 out of 30) went without a hospitalization for a severe VOC for at least 12 months in a row after CASGEVY infusion.

One of the 31 participants was evaluable for severe VOCs but not for hospitalizations

### **SEVERE VOCs**

In the study, a **vaso-occlusive crisis** was considered severe if it involved any one of the following:

- Pain event bad enough that a visit to a healthcare facility and pain medication or RBC transfusion was necessary
- Acute chest syndrome
- Priapism (persistent and often painful erection of the penis for more than 2 hours and requiring a visit to a medical facility)
- Splenic sequestration (sickled red blood cells that get trapped in the spleen and block blood flow)

### IMPORTANT SAFETY INFORMATION (continued) **How will I receive CASGEVY? (continued)**

STEP 2: After they are collected, your blood stem cells will be sent to the manufacturing site where they are used to make CASGEVY. It may take up to 6 months from the time your cells are collected to manufacture and test CASGEVY before it is sent back to your healthcare provider.

**STEP 3:** Shortly before your stem cell transplant, your healthcare provider will give you a conditioning medicine for a few days in hospital. This will prepare you for treatment by clearing cells from the bone marrow, so they can be replaced with the modified cells in CASGEVY.

After you are given this medicine, your blood cell levels will fall to very low levels. You will stay in the hospital for this step and remain in the hospital until after the infusion with CASGEVY.



# Freedom from severe VOCs may be possible with CASGEVY™(continued)



Average total hemoglobin levels and fetal hemoglobin percentages over time

MONTH	3	6	12	18	24
Total hemoglobin g/dL	11.9	12.5	13.0	13.3	13.1
Number of people	43	38	31	27	17
% of total hemoglobin made up of fetal hemoglobin	36.9%	43.9%	43.4%	42.3%	42.1%
Number of people	43	38	32	27	17

Data were not available for every person at each month.

The study results differed among individuals. Your experience may be different.

## IMPORTANT SAFETY INFORMATION (continued) How will I receive CASGEVY? (continued)

**STEP 4:** One or more vials of CASGEVY will be given into a vein (intravenous infusion) over a short period of time.

After the CASGEVY infusion, you will stay in hospital so that your healthcare provider can closely monitor your recovery. This can take 4–6 weeks, but times can vary. Your healthcare provider will decide when you can go home.



Everyone who received CASGEVY™ in the clinical study (44 people) was monitored for safety

After treatment with CASGEVY, you will have fewer blood cells for a while until CASGEVY takes hold (engrafts) into your bone marrow. This includes low levels of platelets (cells that usually help the blood to clot) and white blood cells (cells that usually fight infections). Your doctor will monitor this and give you treatment as required. The doctor will tell you when blood cell levels return to safe levels.



### Tell your healthcare provider right away if you experience any of the following symptoms:

- fever
- severe headache
- **>** chills
- abnormal bruising
- infections
- prolonged bleeding
- bleeding without injury such as nosebleeds; bleeding from gums; blood in your urine, stool, or vomit; or coughing up blood

### The most common side effects of CASGEVY include:

- Low levels of platelet cells, which may reduce the ability of blood to clot and may cause bleeding
- Low levels of white blood cells, which may make you more susceptible to infection

Your healthcare provider will test your blood to check for low levels of blood cells (including platelets and white blood cells).



These are not all the possible side effects of CASGEVY. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1–800–FDA–1088.



# Everyone who received CASGEVY™ in the clinical study (44 people) was monitored for safety (continued)



After receiving the conditioning medicine, which is a form of chemotherapy, it may not be possible for you to become pregnant or father a child.

You should discuss options for fertility preservation with your healthcare provider before treatment.



You may experience side effects associated with other medicines administered as part of the treatment regimen with CASGEVY. Talk to your physician regarding those possible side effects. Your healthcare provider may give you other medicines to treat your side effects.

### SAFETY CONSIDERATIONS FROM THE CLINICAL STUDY



There were no cases of **graft-versus-host disease**, graft failure, or graft rejection with CASGEVY.

The side effects were similar to what would be expected from **busulfan** myeloablative conditioning and stem cell transplant.



## The CASGEVY™ treatment journey

Treatment with CASGEVY requires a commitment, and it's important to understand what to expect along the way.

### TREATMENT OVERVIEW

There are 6 steps in the CASGEVY treatment journey. The length and timing of certain steps may vary. Location of the steps in this brochure is based on the clinical study. The entire CASGEVY treatment journey could take up to a year. Your care team will explain each step in detail and help map out a treatment plan that works for you and your support network.



### STEP 1 **DECIDING ON** CASGEVY



### STEP 2

PREPARING FOR **CELL COLLECTION** 



🖰 At least 8 weeks



### STEP 3

**COLLECTING YOUR BLOOD STEM CELLS** 

- At your ATC
- Up to 3 days
- This may need to be repeated if another collection is needed.



### STEP 4

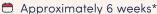
**MAKING YOUR** CASGEVY

- You'll be at home; CASGEVY is made in a lab



CHEMOTHERAPY, RECEIVING CASGEVY, AND RECOVERY





This step includes 4 days of chemotherapy. You should expect to spend the remaining time in the hospital for monitoring and recovery after CASGEVY administration.



STEP 6

AFTER TREATMENT



learn more about treatment journey and what to expect at each step.

CASGEVY is only

given in authorized

treatment centers, or

ATCs. The healthcare

providers at ATCs

are the only ones who can confirm whether CASGEVY is right for you and can

help you begin the

treatment process.

\*Timing of this step is based on the clinical study.

### IMPORTANT SAFETY INFORMATION (continued) What should I avoid after receiving CASGEVY?

• Do not donate blood, organs, tissues, or cells at any time in the future







### **IMPORTANT SAFETY INFORMATION (continued)** What are the possible or reasonably likely side effects of CASGEVY?

The most common side effects of CASGEVY include:

- Low levels of platelet cells, which may reduce the Low levels of white blood cells, which may make ability of blood to clot and may cause bleeding
  - you more susceptible to infection

Your healthcare provider will test your blood to check for low levels of blood cells (including platelets and white blood cells). Tell your healthcare provider right away if you get any of the following symptoms:

- fever
- chills
- infections
- severe headache
- abnormal bruising
- prolonged bleeding
- bleeding without injury such as nosebleeds; bleeding from gums; blood in your urine, stool, or vomit; or coughing up blood



# Getting support during your journey

AN INVESTMENT NOW FOR DIFFERENT POSSIBILITIES

The entire CASGEVY™ treatment journey could take up to a year.



### SCHEDULING AND PLANNING

There's a lot to keep track of during your CASGEVY journey. And there is a lot of support available to help you.

Bring a notebook or a smartphone to take notes during your conversations with your healthcare providers. This could help a great deal. So can working with someone in your support network to schedule appointments and plan your treatment.



### **A COMMITMENT**

Your healthcare provider and support network can help you decide if this is the right time to begin the CASGEVY journey.



## PREPARING FOR LONG STAYS

It can help to bring things like books, games and familiar items from home during long hospital stays.



## TIME OFF FROM SCHOOL OR WORK

You may need to adjust your schedule and routine, including your time at work or school.

## IMPORTANT SAFETY INFORMATION (continued) What are the possible or reasonably likely side effects of CASGEVY? (continued)

These are not all the possible side effects of CASGEVY. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

### General information about the safe and effective use of CASGEVY

Talk to your healthcare provider about any health concerns.





### CONNECTING YOU TO THE JOURNEY AHEAD

Vertex Connects<sup>™</sup> is a program for people who have been prescribed a Vertex gene therapy and their loved ones.

### SUPPORT IS HERE FOR YOU

From the start of your treatment journey, your Vertex Connects Care Manager will be with you. They understand the CASGEVY™ treatment process and have experience working with patients and families.

## AFTER ENROLLING\* IN VERTEX CONNECTS, YOUR CARE MANAGER WILL:



Answer key questions about the treatment process and share useful guides to help you and your loved ones prepare for each step



Connect in a way that works best for you—whether it's by email or phone



Keep in touch with your treatment center team to help coordinate the logistics of your treatment journey



Spend time getting to know you so they can provide meaningful support

\*A completed Vertex Connects enrollment form is needed to participate in the program and determine eligibility for certain program offerings. Enrollment in Vertex Connects Patient Support is not required to receive Vertex gene therapy.



Click here to learn more about Vertex Connects.

## Glossary



Here is a quick guide to some of the words used in this brochure. BCL11A

A gene that controls the production of fetal hemoglobin in the body. *BCL11A* normally tells the body to make less fetal hemoglobin in early childhood.

Busulfan

A chemotherapy drug used to prepare the body to receive blood stem cell transplant. Chemotherapy is a treatment, usually given for cancer, that kills cells or stops them from reproducing.

CRISPR/Cas9

Stands for CRISPR (clustered regularly interspaced short palindromic repeats)/ CRISPR-associated protein 9. This tool allows for gene editing.

DNA

Stands for deoxyribonucleic acid. It is a part of a cell that carries genetic instructions for how the body works.

Fetal hemoglobin

The main type of hemoglobin found before birth in fetuses and for a few months after birth in newborns.

Gene

Sequence of DNA that tells the body how to make specific proteins.

**Gene editing** 

The process of changing a specific sequence of DNA to change what a gene does.

Graft-versus-host disease

A condition where donated stem cells or bone marrow (the graft) see the healthy tissues in the person's body (the host) as foreign and attack them.

Hemoglobin

A protein in red blood cells that carries oxygen from the lungs to the rest of the body.

Placebo

An inactive pill or substance that is used in a clinical study to compare against the treatment being studied.

Sickle cell disease

Lifelong blood disorder inherited from a person's mother and father. Sickle cell disease causes red blood cells to:

- Change to sickle (letter "C") shape
- Carry less oxygen throughout the body
- Have a harder time moving through blood vessels

Vaso-occlusive crisis (VOC)

These painful crises happen when too many sickled red blood cells get stuck in a blood vessel, reducing the flow of blood.



# CASGEVY<sup>TM</sup> is a one-time gene therapy that may help people aged 12 years and older with sickle cell disease (SCD) and frequent vaso-occlusive crises (VOCs) live severe VOC-free.\*

Treatment involves a multi-step process that could take up to a year. This includes the collection and editing of blood stem cells to make your CASGEVY. It also includes preparing you for CASGEVY, administration of CASGEVY, and follow-up monitoring for recovery and potential side effects.



CASGEVY is made with your body's own blood stem cells. **So no donor is needed.** 

### IN THE CASGEVY CLINICAL STUDY:



**93.5% of people** (29 out of 31) in the clinical study did not have a severe VOC for at least 12 months in a row after CASGEVY infusion.



**100% of people** (30 out of 30) went without a hospitalization for a severe VOC for at least 12 months in a row after CASGEVY infusion.

One of the 31 participants was evaluable for severe VOCs but not for hospitalizations



Click here to visit CASGEVY.com to learn more.

\*In clinical studies, severe VOCs, or vaso-occlusive crises, were defined as either a pain event requiring a visit to a medical facility and pain medication or red blood cell transfusions, acute chest syndrome, priapism (persistent and often painful erection of the penis for more than 2 hours and requiring a visit to a medical facility), or splenic sequestration (sickled red blood cells that get trapped in the spleen and block blood flow).

### **IMPORTANT SAFETY INFORMATION**

### What is the most important information I should know about CASGEVY?

After treatment with CASGEVY, you will have fewer blood cells for a while until CASGEVY takes hold (engrafts) into your bone marrow. This includes low levels of platelets (cells that usually help the blood to clot) and white blood cells (cells that usually fight infections). Your doctor will monitor this and give you treatment as required. The doctor will tell you when blood cell levels return to safe levels.

Please see additional <u>Important Safety Information</u> on pages 3–5 and full <u>Prescribing Information</u>, including <u>Patient Information</u>, for CASGEVY.





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