Slide 1

Cryptococcal Screening Program Case Studies

Image courtesy of World Health Organization

National Center for Emerging and Zoonotic Infectious Diseases
Mycotic Diseases Branch

Slide 2

Note to trainers

Aim of presentation

This document is intended for use as a visual aid for the Case Studies section (p.30-40) of the Cryptococcal Screening Program Training Manual for Healthcare Providers.

Intended audience

Health care workers (doctors and nurses) in health facilities in resource-limited settings (RLS) participating in clinical training in the context of cryptococcal screening and treatment programs.

Supplies needed

Cryptococcal Screening Program Training Manual for Healthcare Providers (available online)

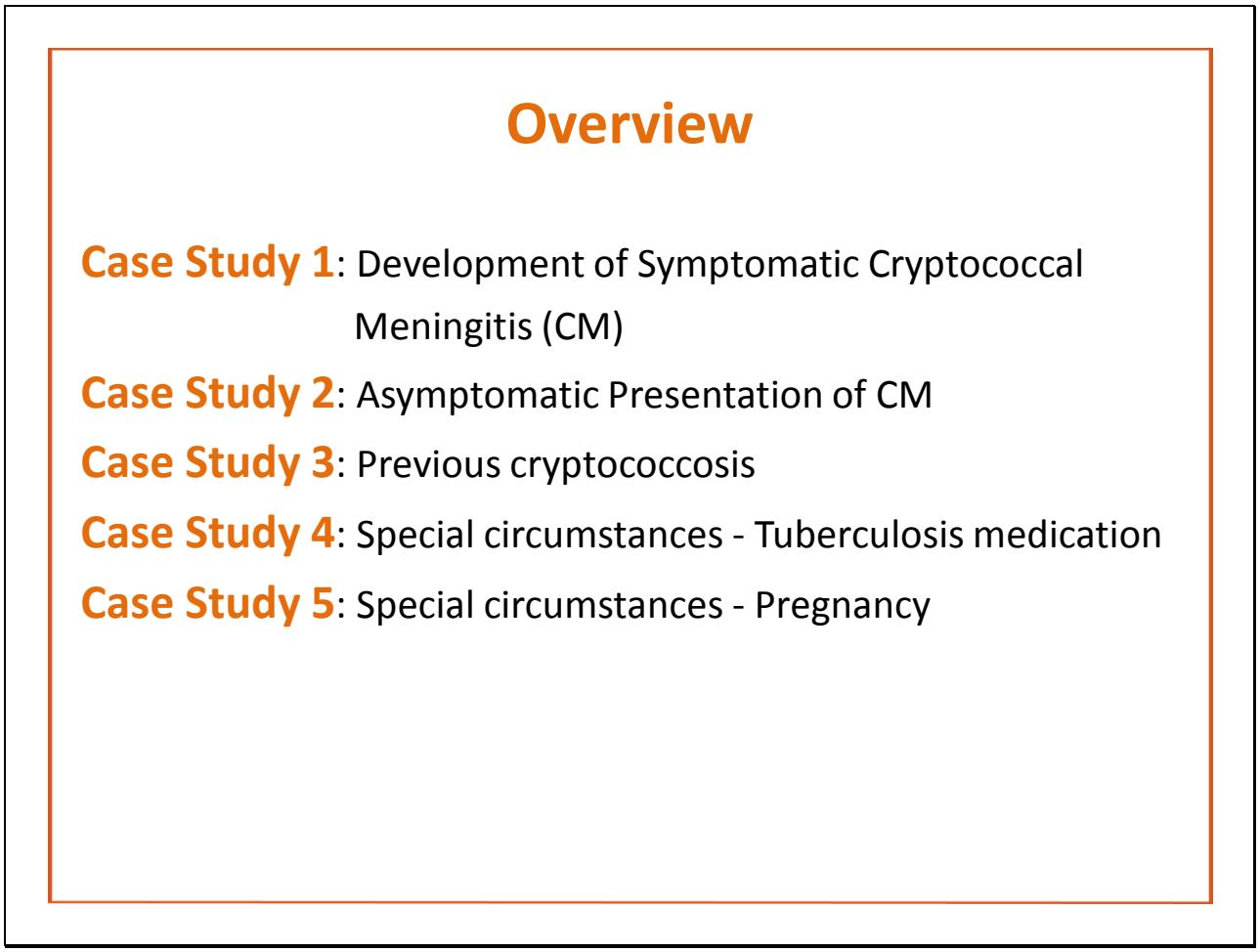
Slide 3

Learning objectives

Case studies reviewed in this presentation aim to improve participants' understanding of:

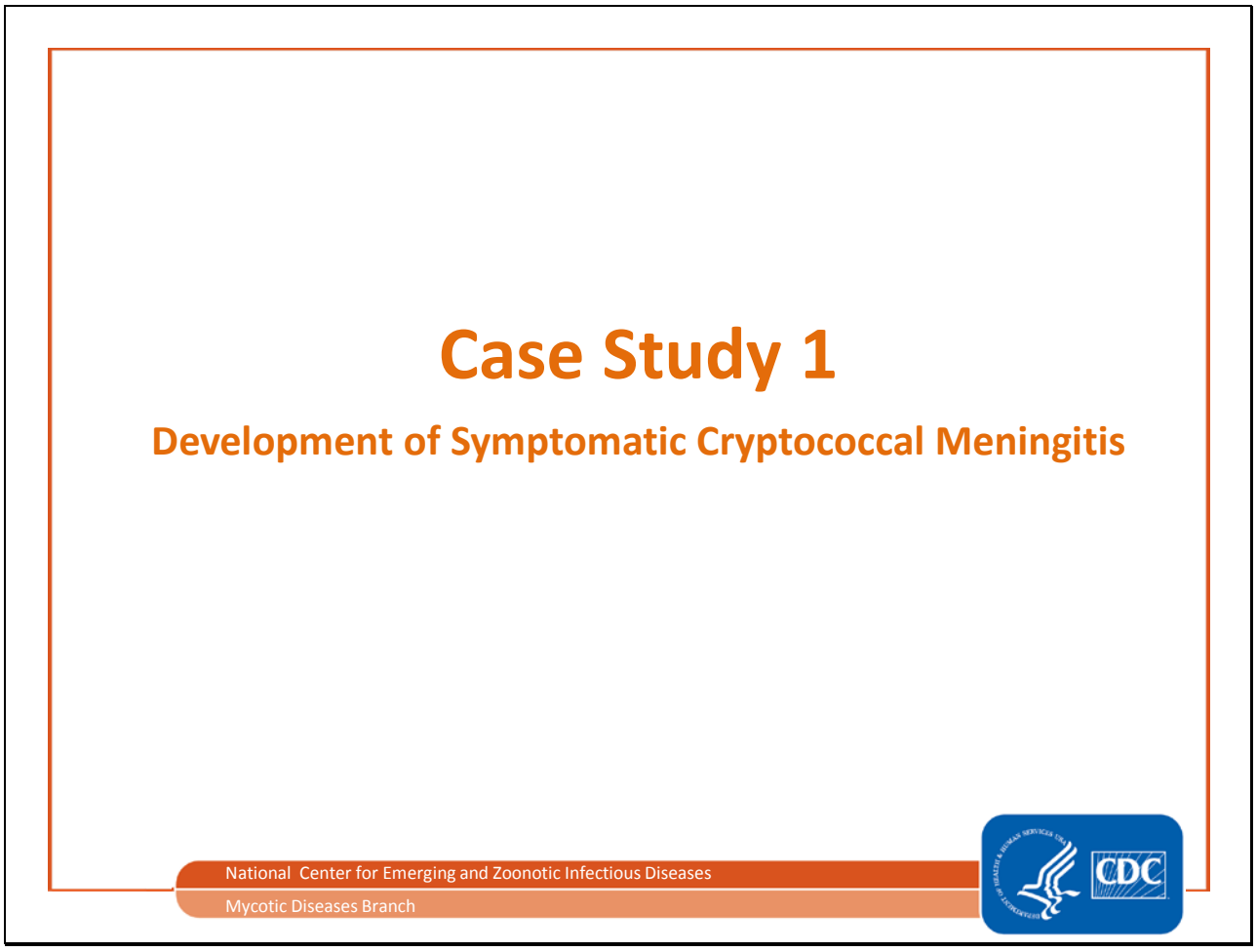
- The different clinical presentations among patients with cryptococcal meningitis and those with asymptomatic cryptococcal disease.
- The differences in the management and treatment of asymptomatic vs. symptomatic patients
- The side effects and importance of closely monitoring patients given amphotericin B
- The differences in management and treatment of patients with special circumstances, such as tuberculosis treatment or pregnancy

Slide 4



The trainer should present the overview of the five case studies covered in this presentation. The trainer should also highlight that all patients discussed are living with HIV.

Slide 5



The trainer leading the clinical training for Healthcare Providers should refer participants to **page 31** of the *Cryptococcal Screening Program Training Manual for Healthcare Providers*.

Slide 6

Case Study 1
Development of Symptomatic Cryptococcal Meningitis

- Patient history and initial presentation
  - 49 year-old man, CD4 count of 9
  - Watery diarrhea for 1 month, has lost 10 kg in past 2 months
  - Lives alone, drinks daily
  - No symptoms of cryptococcal disease (headache, fever, confusion, neck stiffness, or light sensitivity)
  - Very wasted, mildly dehydrated, and has oral candidiasis

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Case Study 1
Development of Symptomatic Cryptococcal Meningitis

- Patient management
  - Baseline bloods ordered: full blood count, creatinine, ALT, and RPR
  - Stool sample collected and sent to lab
  - Serum cryptococcal antigen (CrAg) test: **positive**
  - Patient is told to complete readiness classes and return to the clinic in 2 weeks to begin ART

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Case Study 1
Development of Symptomatic Cryptococcal Meningitis

- Medications prescribed
  - Nystatin mouth wash
  - Bactrim 2 tabs/day
  - Vitamin B complex 2 tabs/day
  - Thiamine 200 mg/day (in view of alcohol history and possible malabsorption)

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Case Study 1
Development of Symptomatic Cryptococcal Meningitis

- Patient progress
  - Patient does not return to your clinic to start ART.
  - Unable to get in contact with patient to prompt him to return to clinic
  - Three months later, he presents to the hospital with a headache, neck stiffness, and confusion.
  - A lumbar puncture (LP) shows that his intracranial pressure is very high (45 cm), and that his spinal fluid contains *Cryptococcus* (India Ink and CrAg positive).
  - Daily therapeutic LPs are performed to reduce his intracranial pressure, and his creatinine, potassium, and magnesium are monitored.
  - He is started on amphotericin B with pre-hydration.
  - Despite appropriate management, the patient dies on day 5 of admission.

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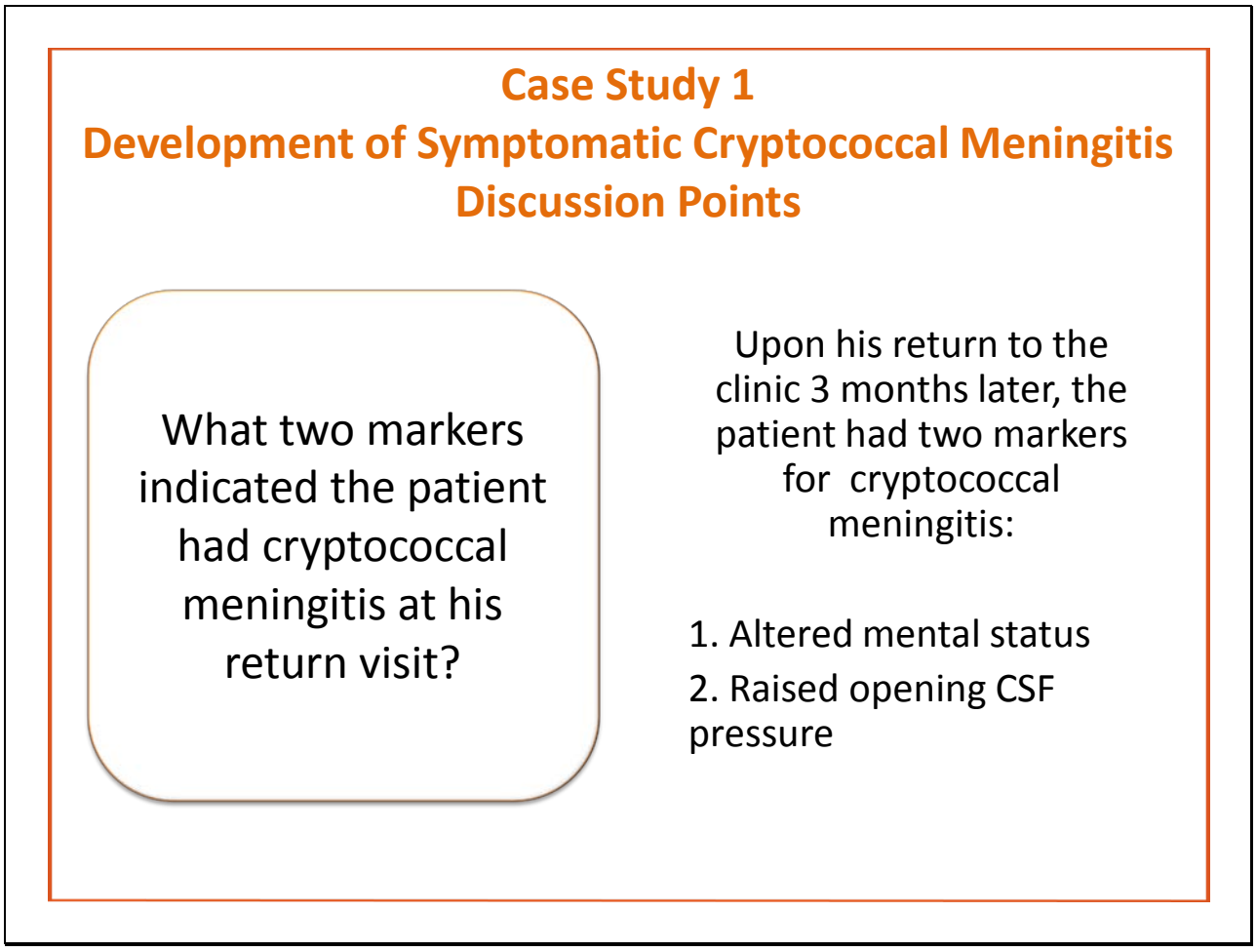

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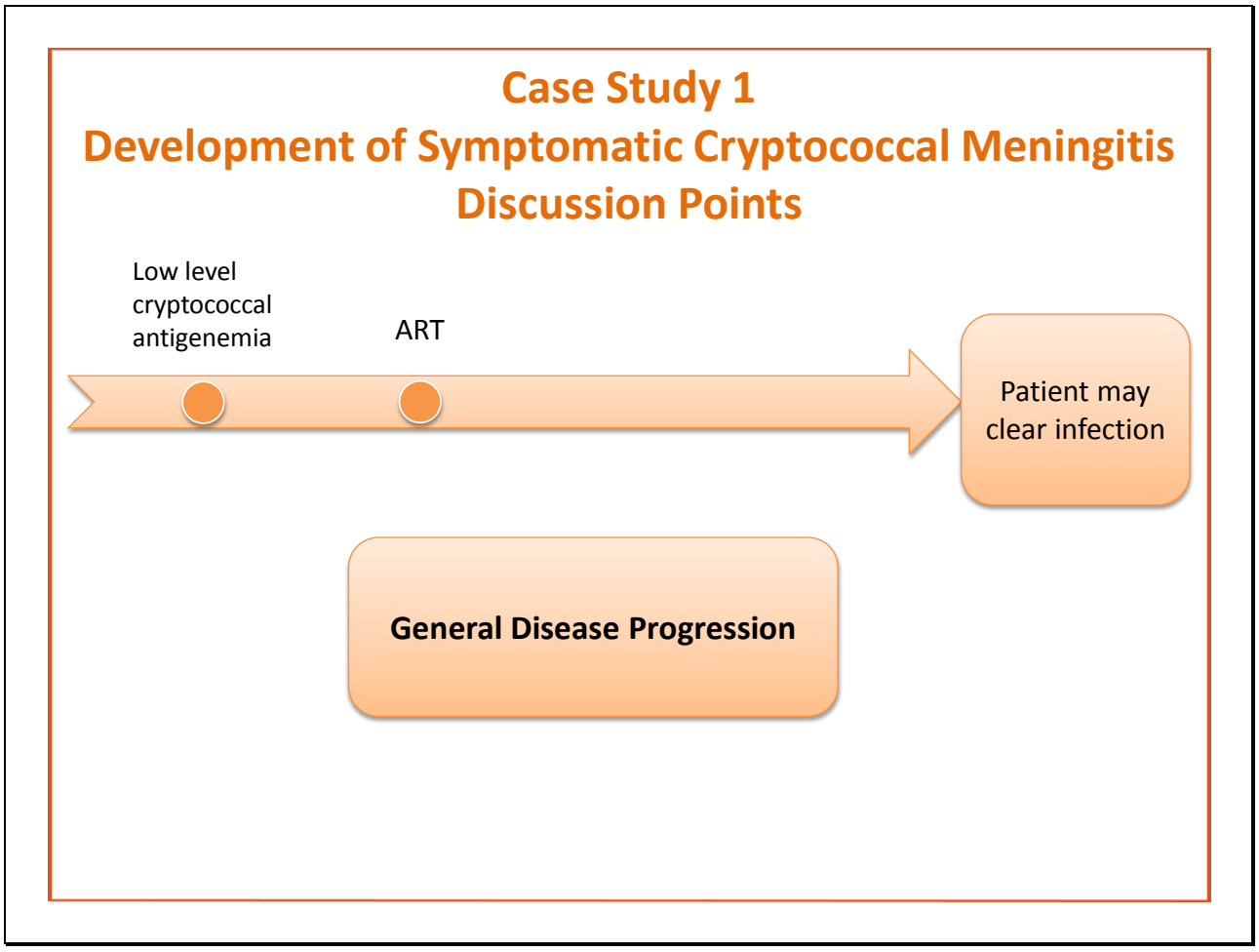

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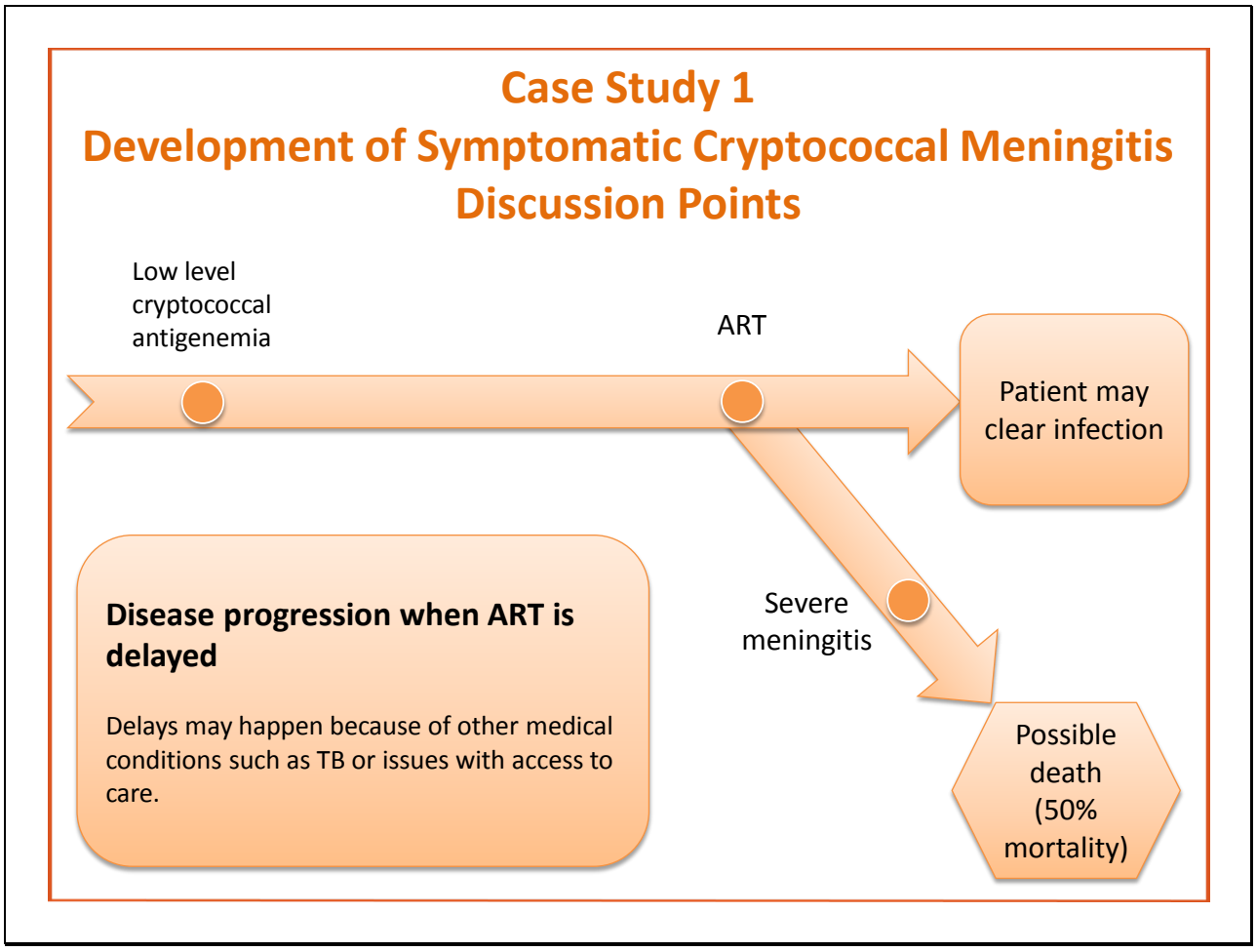

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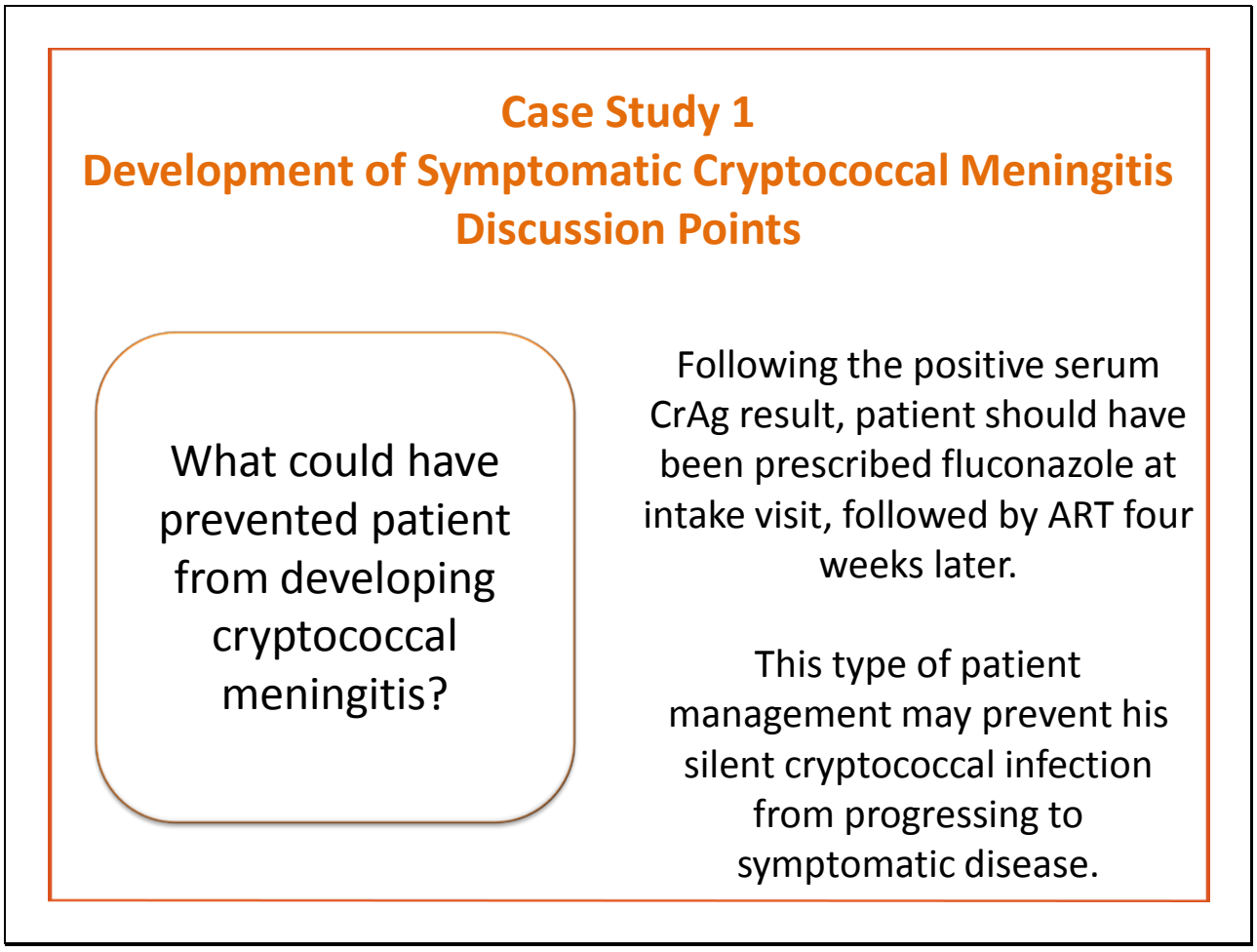

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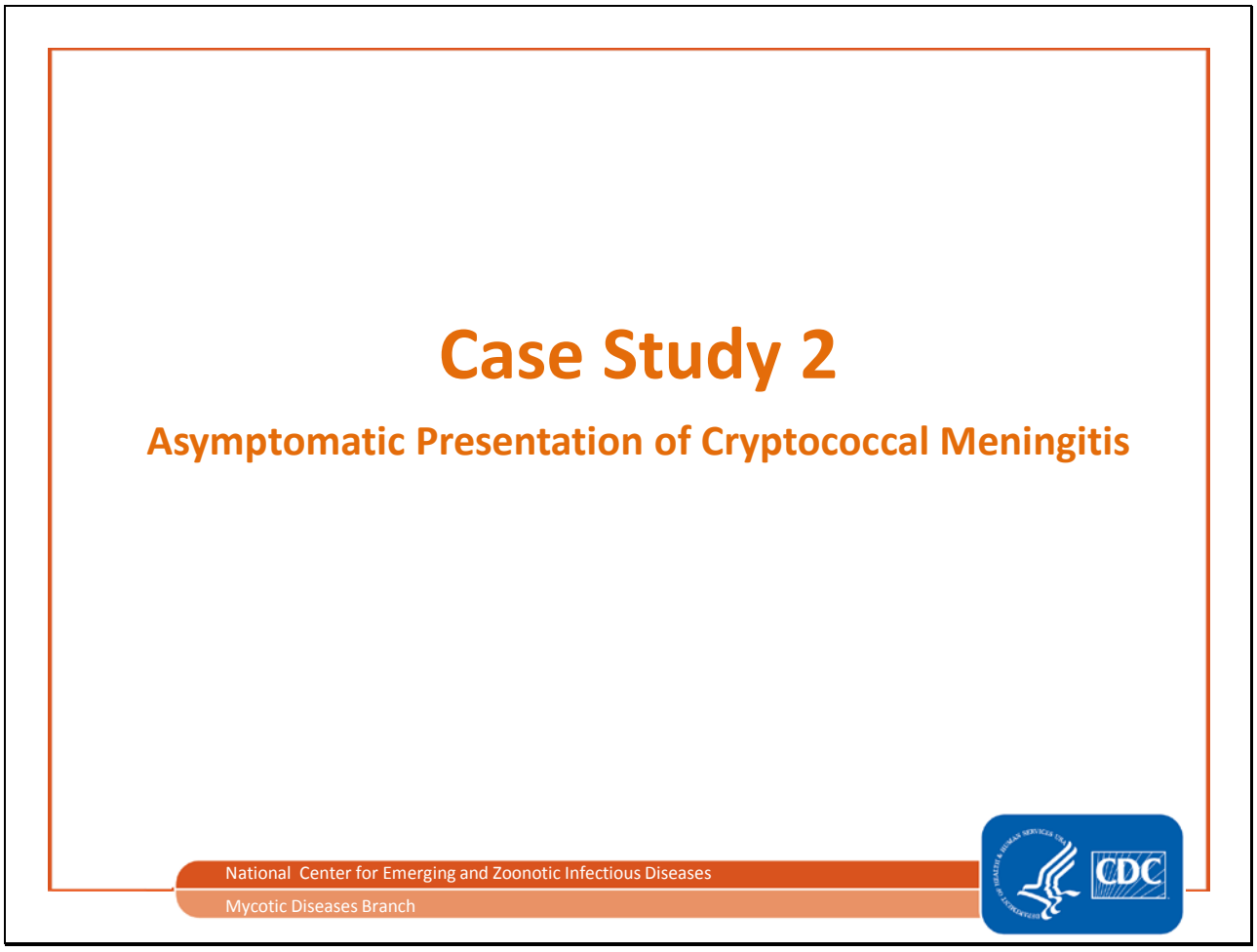

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Case Study 2
Asymptomatic Presentation of Cryptococcal Meningitis

- Patient history and initial presentation
  - A 40-year old man is referred to your clinic after a 2-week hospital stay with pneumocystis pneumonia, where he was treated with cotrimoxazole and steroids, and made a good recovery.
  - Newly diagnosed with HIV, CD4 count of 11. Upon presentation to the clinic, he has a headache, but no fever, confusion, or neck stiffness.
  - He has severe oral candidiasis, one Kaposi's sarcoma (KS) lesion on his back, and nerve pain in his feet.

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Case Study 2
Asymptomatic Presentation of Cryptococcal Meningitis

- Patient management
  - Baseline bloods ordered: full blood count, creatinine, ALT, and RPR
  - Serum cryptococcal antigen (CrAg) test: **positive**
  - Lumbar puncture performed: CSF CrAg test positive, India Ink positive
  - Patient admitted to hospital for management of cryptococcal meningitis
- Medication prescribed
  - Amphotericin B 1 mg/kg/day with pre-hydration

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Case Study 2
Asymptomatic Presentation of Cryptococcal Meningitis

- Patient progress
  - On day 4 of hospital admission, patient's creatinine is too high, which means his kidneys are failing. He is given fluids and the dose of amphotericin B is lowered.
  - On day 10, the amphotericin B causes him to develop thrombophlebitis (swelling in the veins due to blood clots) and he has become anemic.
  - He completes 14 days of amphotericin B and is discharged on fluconazole.
  - At his post-hospital discharge clinic visit, the patient is doing well and does not complain of headaches.
  - He is continued on fluconazole 800 mg/day and is started on ART (AZT, 3TC, EVZ) in view of his creatinine levels (kidney failure) and peripheral neuropathy (nerve pain).

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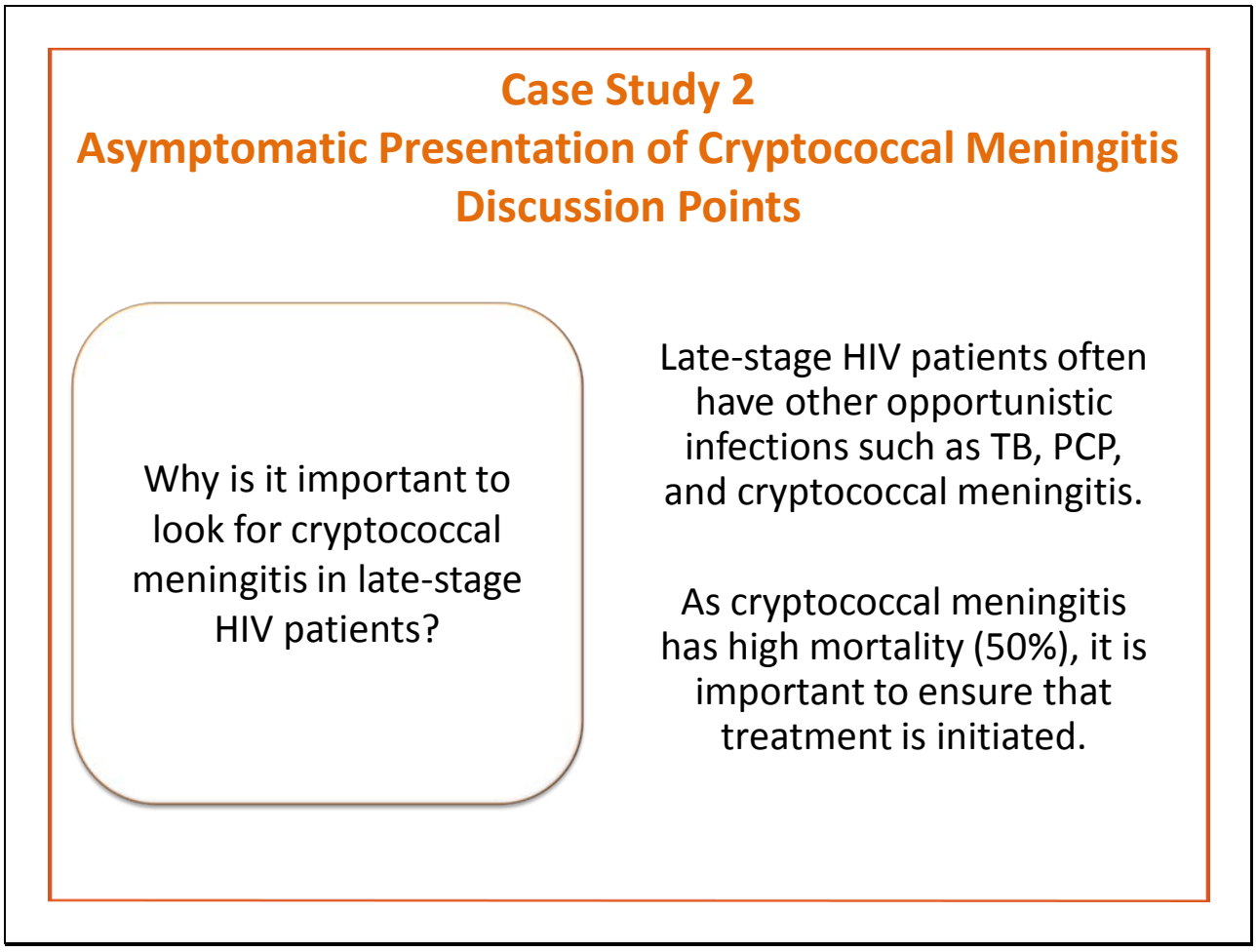

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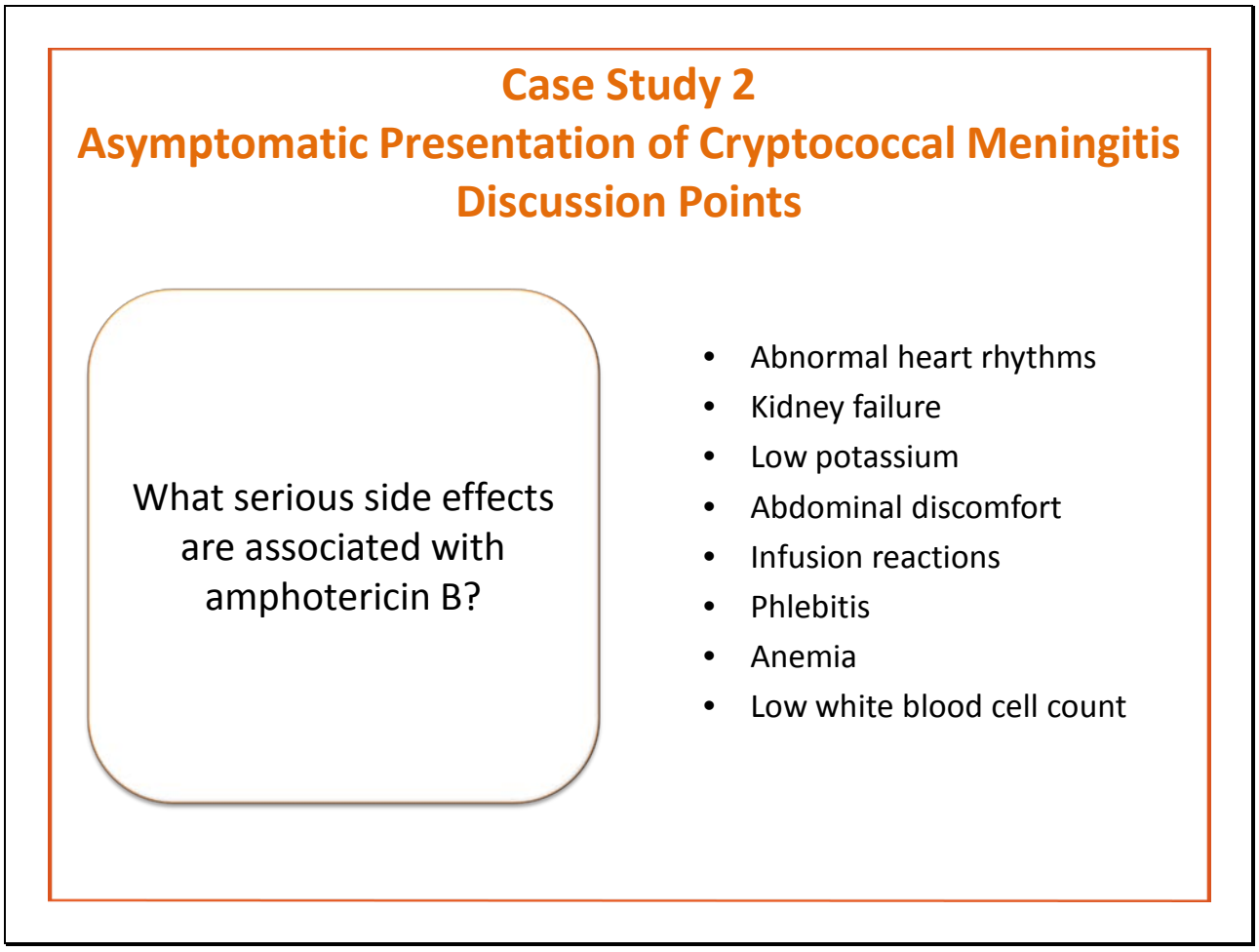
Slide 19



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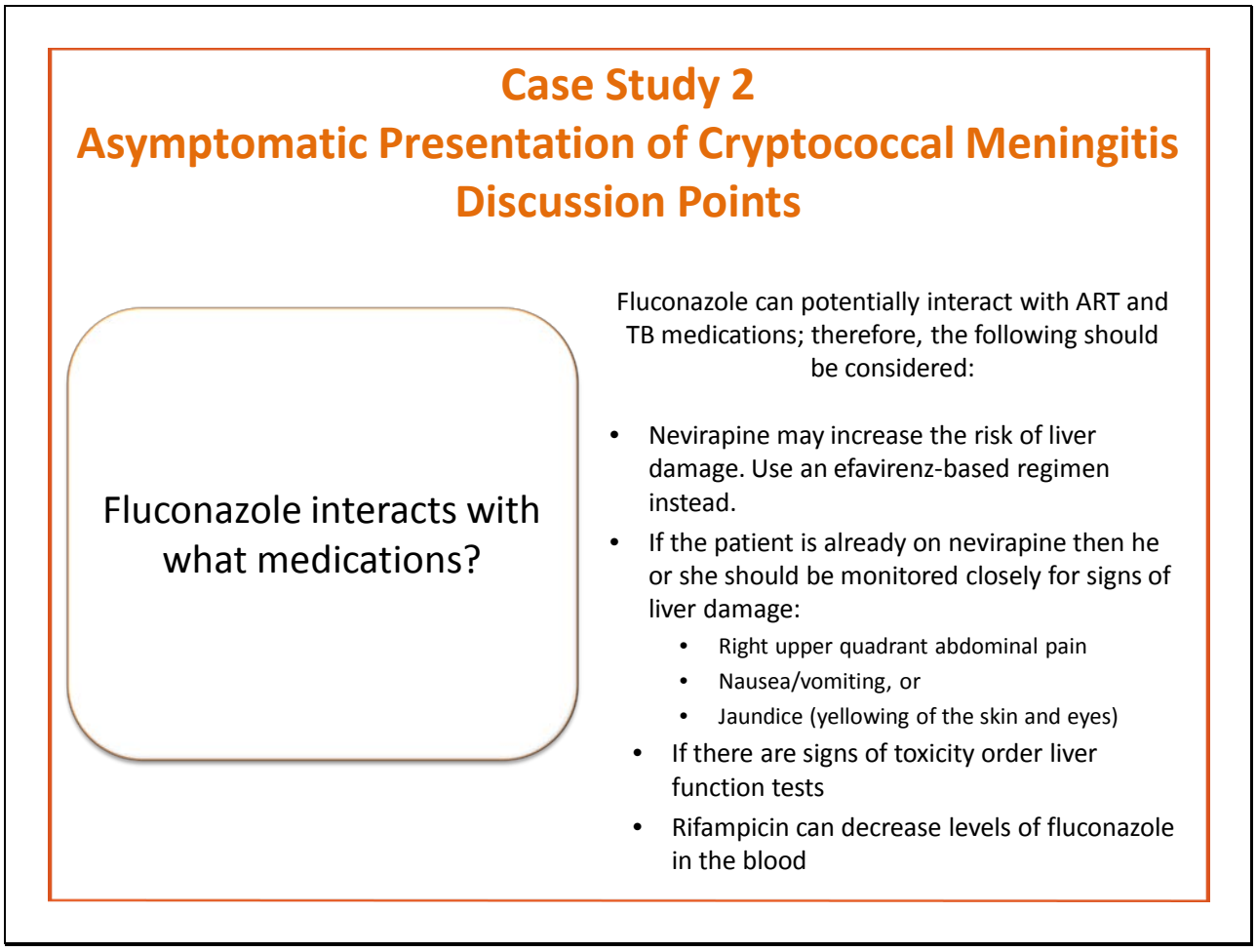

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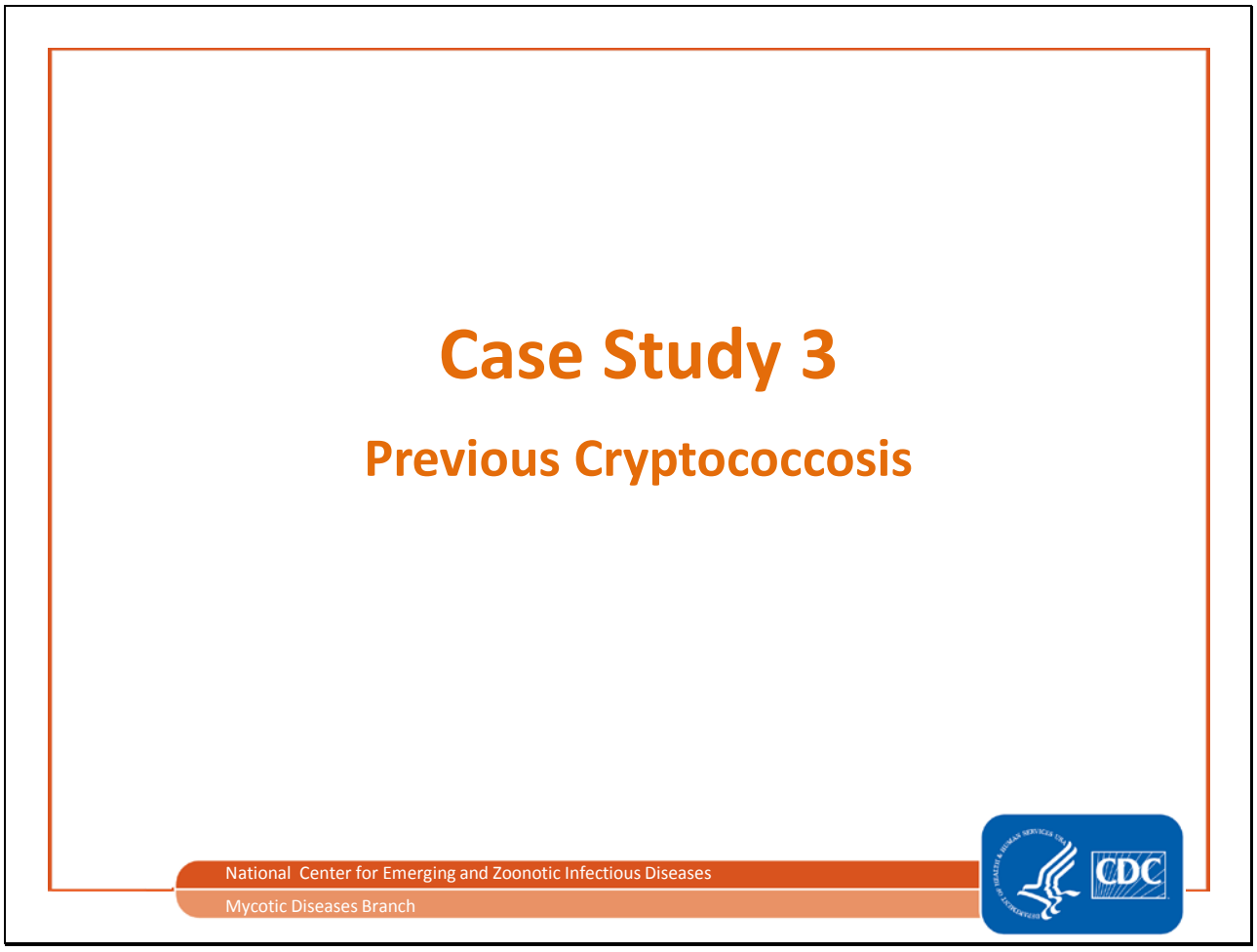

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Case Study 3
Previous Cryptococcosis

- Patient history and initial presentation
  - 37 year-old woman, CD4 count of 19
  - She recently moved to Cape Town from Queenstown, leaving behind her medications and transfer letter
  - She reports no headache, fever, confusion, or neck stiffness, and there are no positive findings upon examination

The trainer leading the clinical training for Healthcare Providers should refer participants to **page 35** of the *Cryptococcal Screening Program Training Manual for Healthcare Providers*.

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Case Study 3
Previous Cryptococcosis

- Patient management
  - Baseline bloods ordered: full blood count, creatinine, ALT, and RPR
  - Serum cryptococcal antigen (CrAg) test: **positive**
  - The patient is told to complete readiness classes and return to the clinic in 2 weeks to begin ART
- Medications prescribed
  - Fluconazole 800 mg/day for 2 weeks
  - Bactrim 2 tablets/day
  - Vitamin B complex 2 tablets/day

The trainer leading the clinical training for Healthcare Providers should refer participants to **page 35** of the *Cryptococcal Screening Program Training Manual for Healthcare Providers*.

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Case Study 3
Previous Cryptococcosis

- Patient progress
  - At her follow-up visit, the patient is doing well.
  - Her sister brought the patient's original medications and clinic transfer letter.
  - You learn that the patient had previously been admitted to hospital with cryptococcal meningitis 2 months ago, and was prescribed fluconazole 200 mg/day, Bactrim, and Vitamin B complex.

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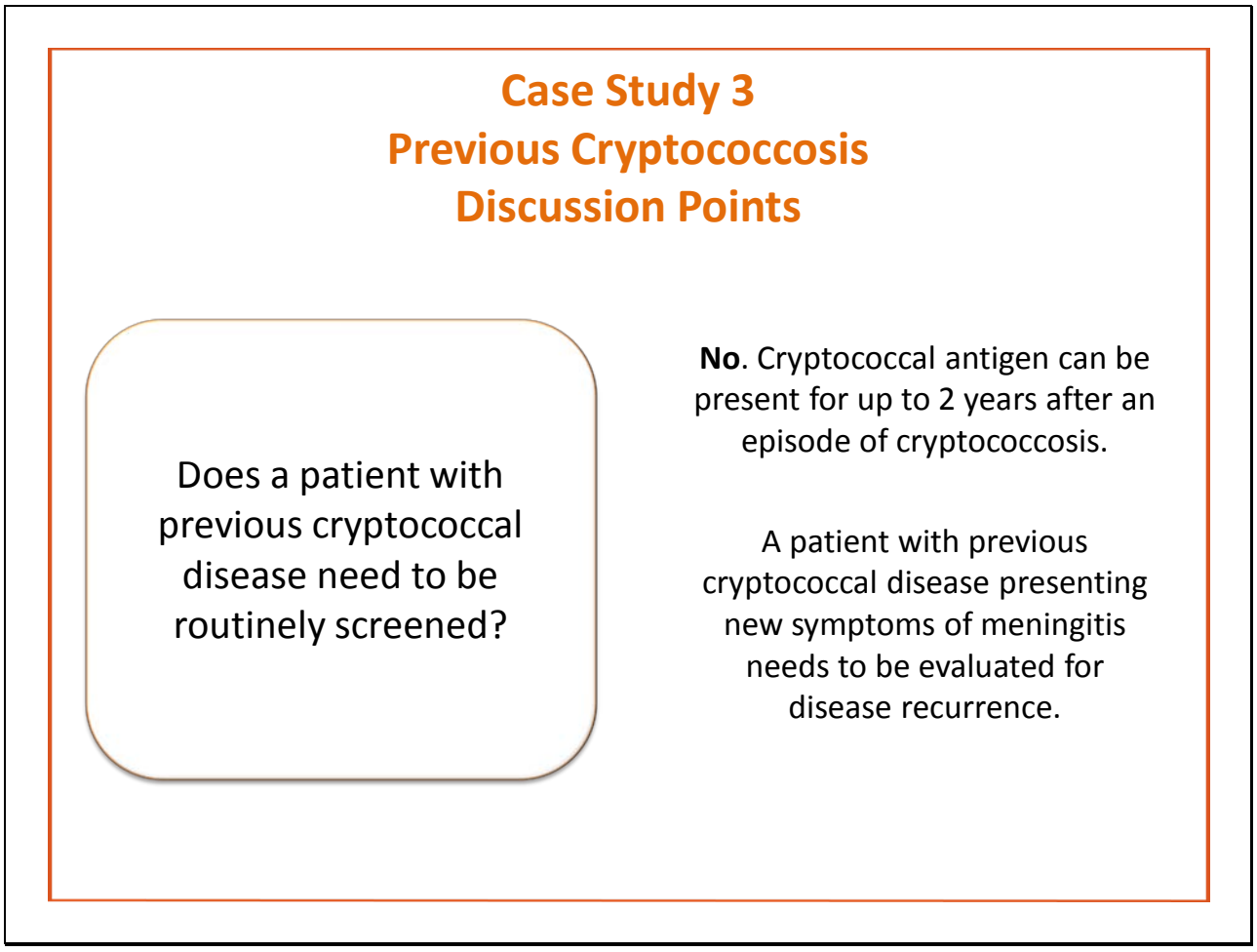

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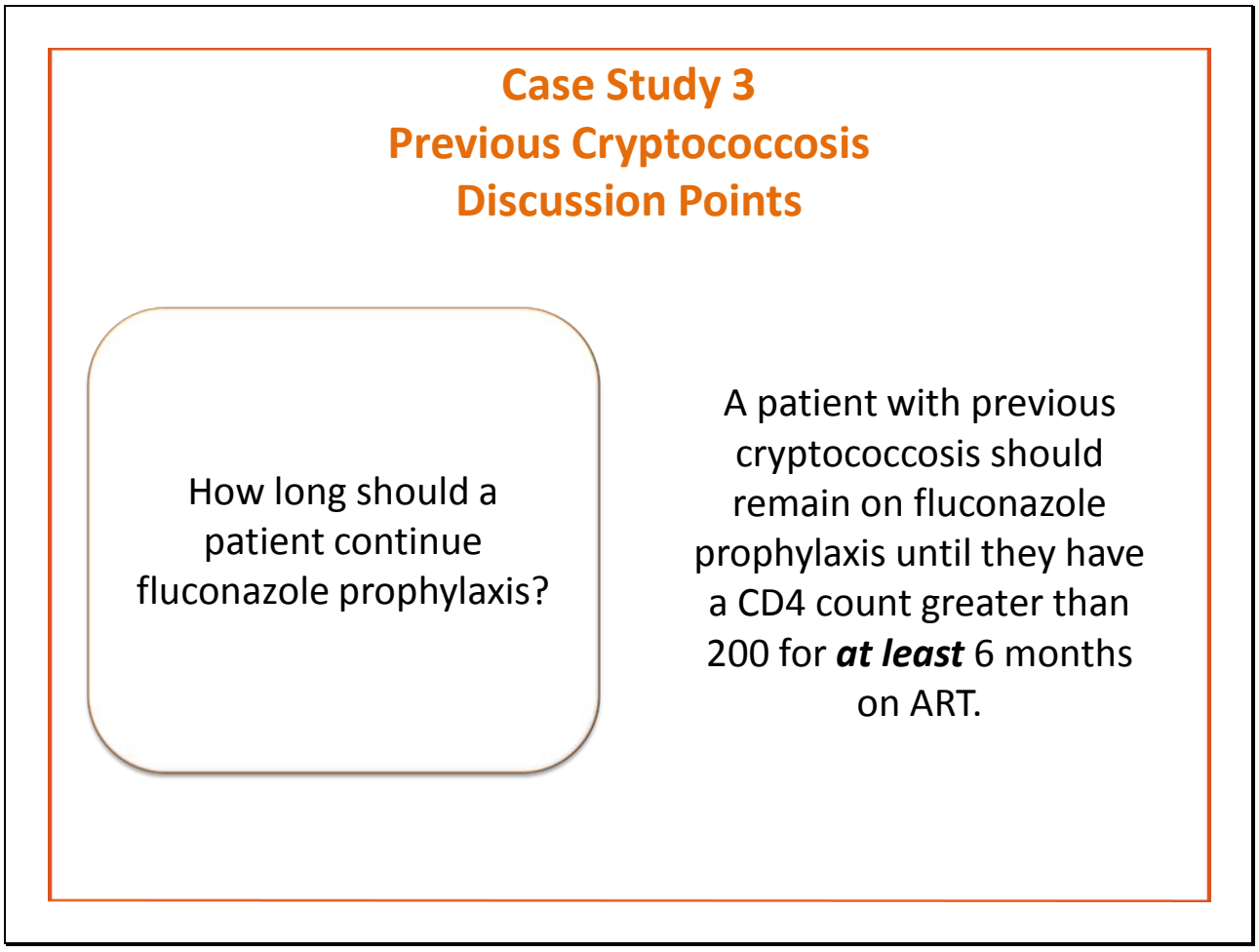

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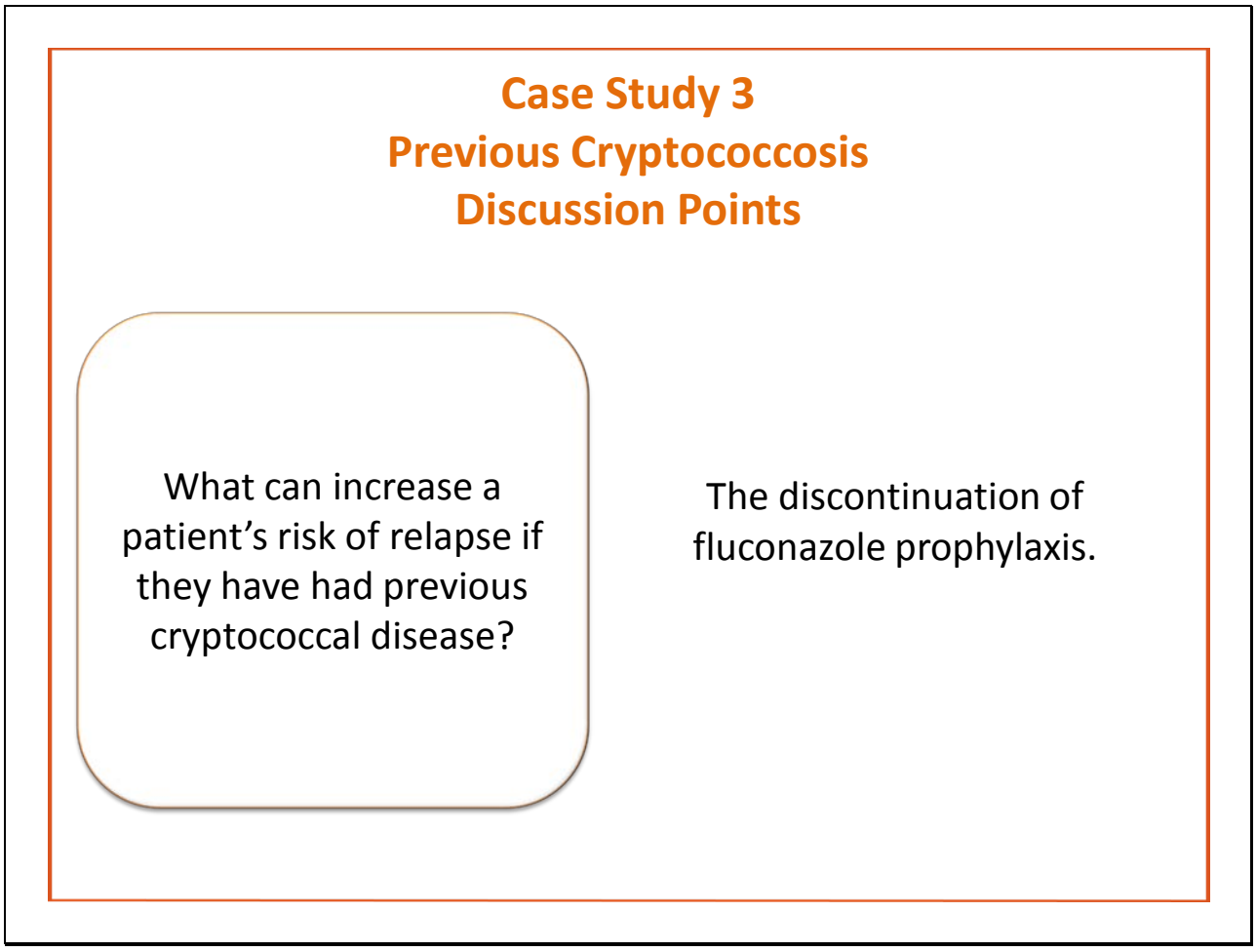

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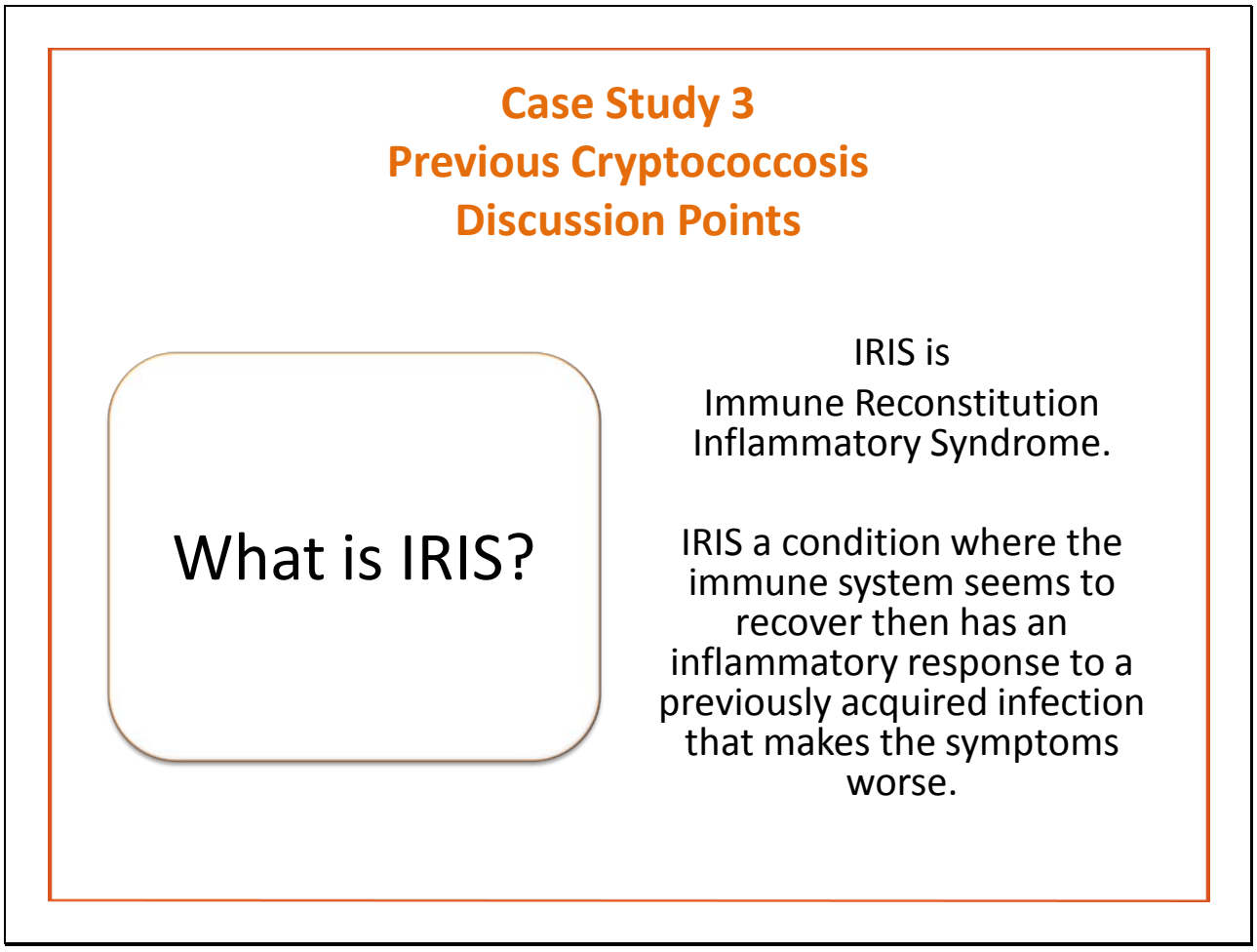

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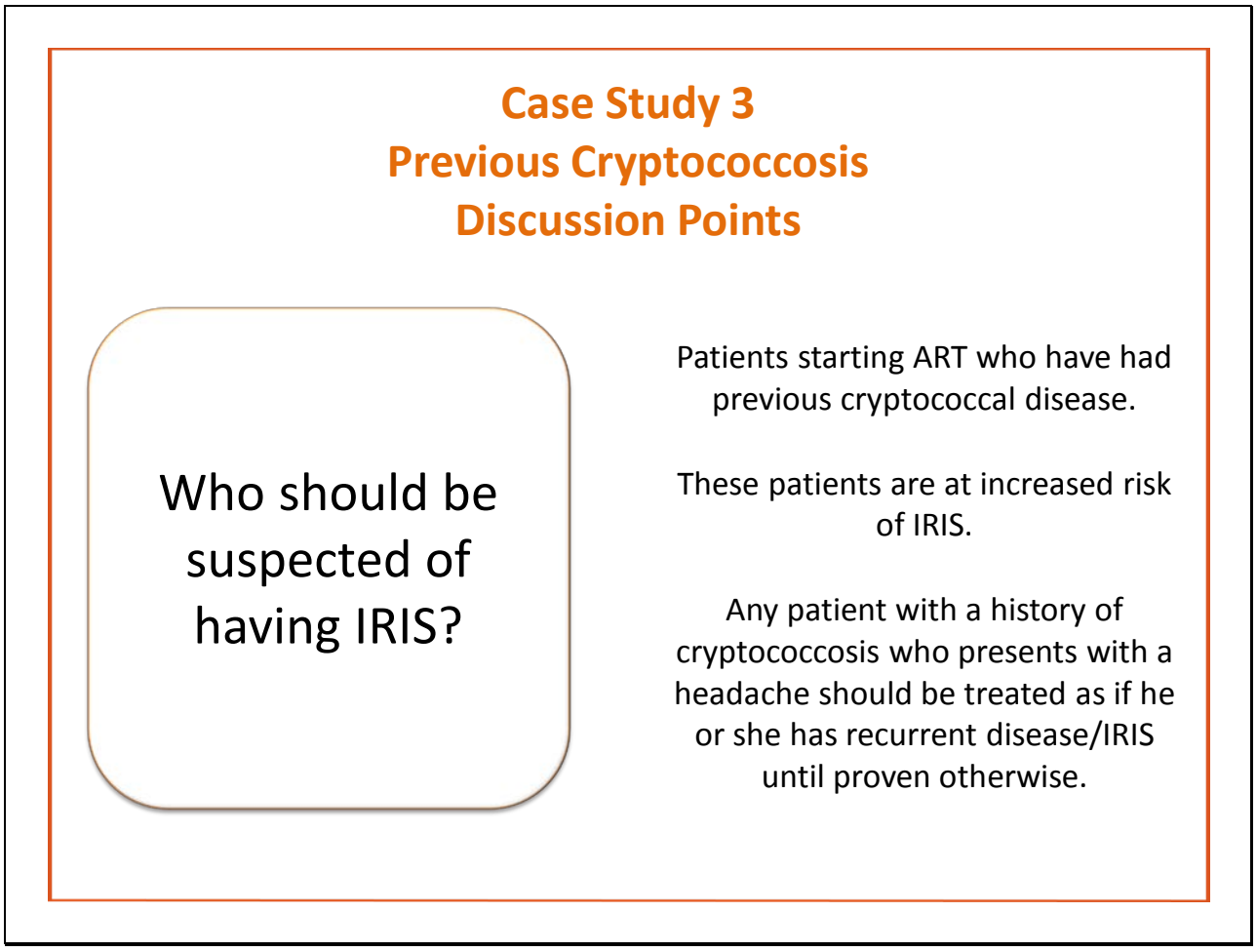

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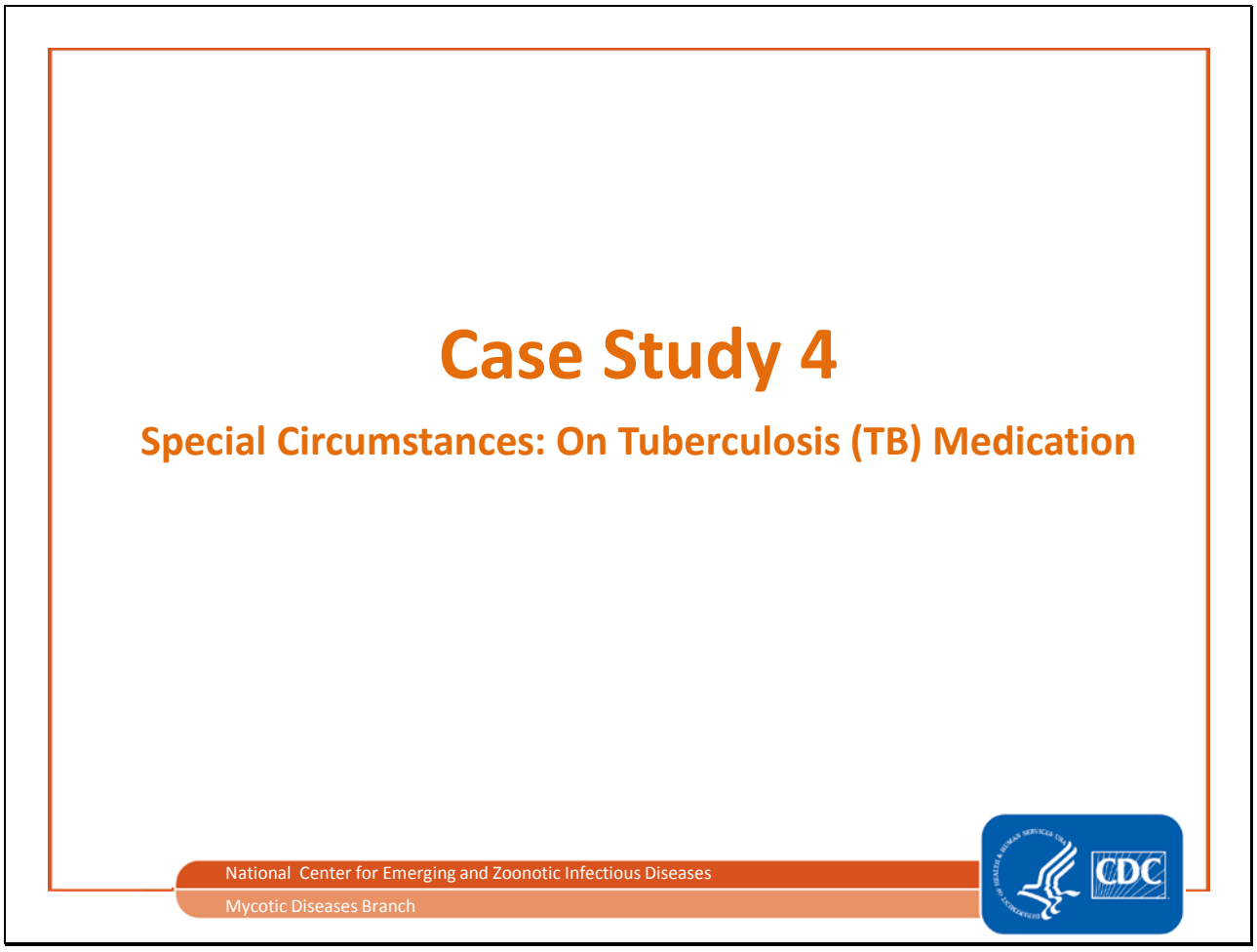

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Case Study 4
Special Circumstances: On TB Medication

- Patient history and initial presentation
  - A 35 year-old man is referred to your clinic from a TB clinic after having been diagnosed smear-positive for pulmonary TB 4 weeks ago.
  - He has started on regimen 1 (RHEZ). He is newly diagnosed with HIV, with a CD4 count of 50.
  - Upon presentation to the clinic, the patient feels well, and his respiratory symptoms are improving. He has no headache, fever, or neck stiffness. However, upon examination, the patient is wasted, has crackling in his lungs, and has a red, scaly rash.

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Case Study 4
Special Circumstances: On TB Medication

- Patient management
  - Baseline bloods ordered: full blood count, creatinine, ALT, and RPR
  - Serum cryptococcal antigen (CrAg) test: **positive**
  - Patient is told to complete readiness classes and return to the clinic in 2 weeks to begin ART
- Medication prescribed
  - Fluconazole 800 mg/day for 2 weeks
  - Bactrim 2 tablets/day
  - Vitamin B complex 2 tablets/day

The trainer leading the clinical training for Healthcare Providers should refer participants to **page 37** of the *Cryptococcal Screening Program Training Manual for Healthcare Providers*.

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Case Study 4
Special Circumstances: On TB Medication

- Patient progress
  - The patient telephones the clinic 2 days later, complaining of nausea and vomiting after taking the fluconazole and TB medications together.
  - The patient is asked to return to clinic for an ALT test, the results of which was normal.
  - He is advised to divide the dose of fluconazole to 400 mg two times per day and to take the fluconazole separately from the TB medications.
  - After this, the patient tolerates the medications well, and completes 6 months of TB treatment.

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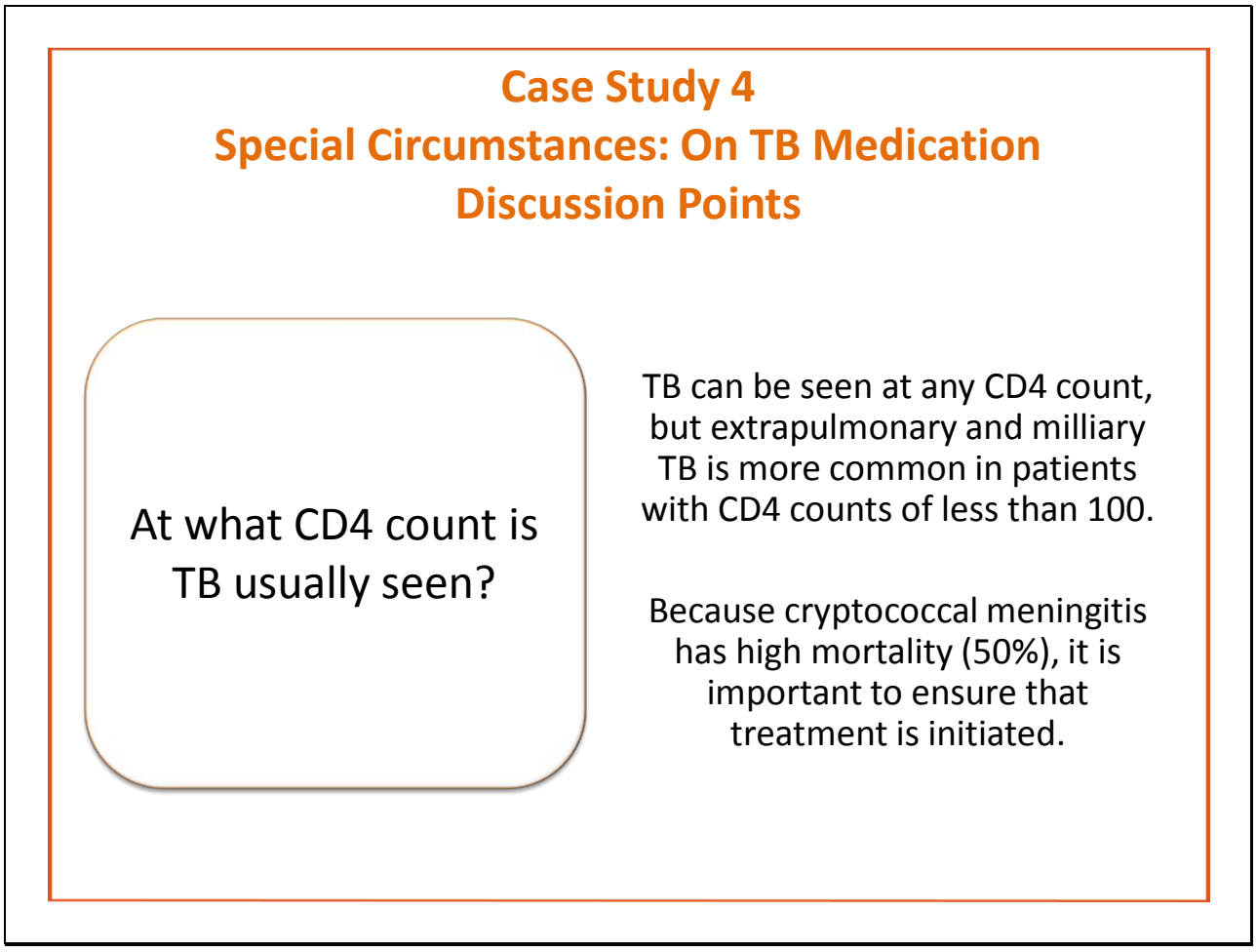

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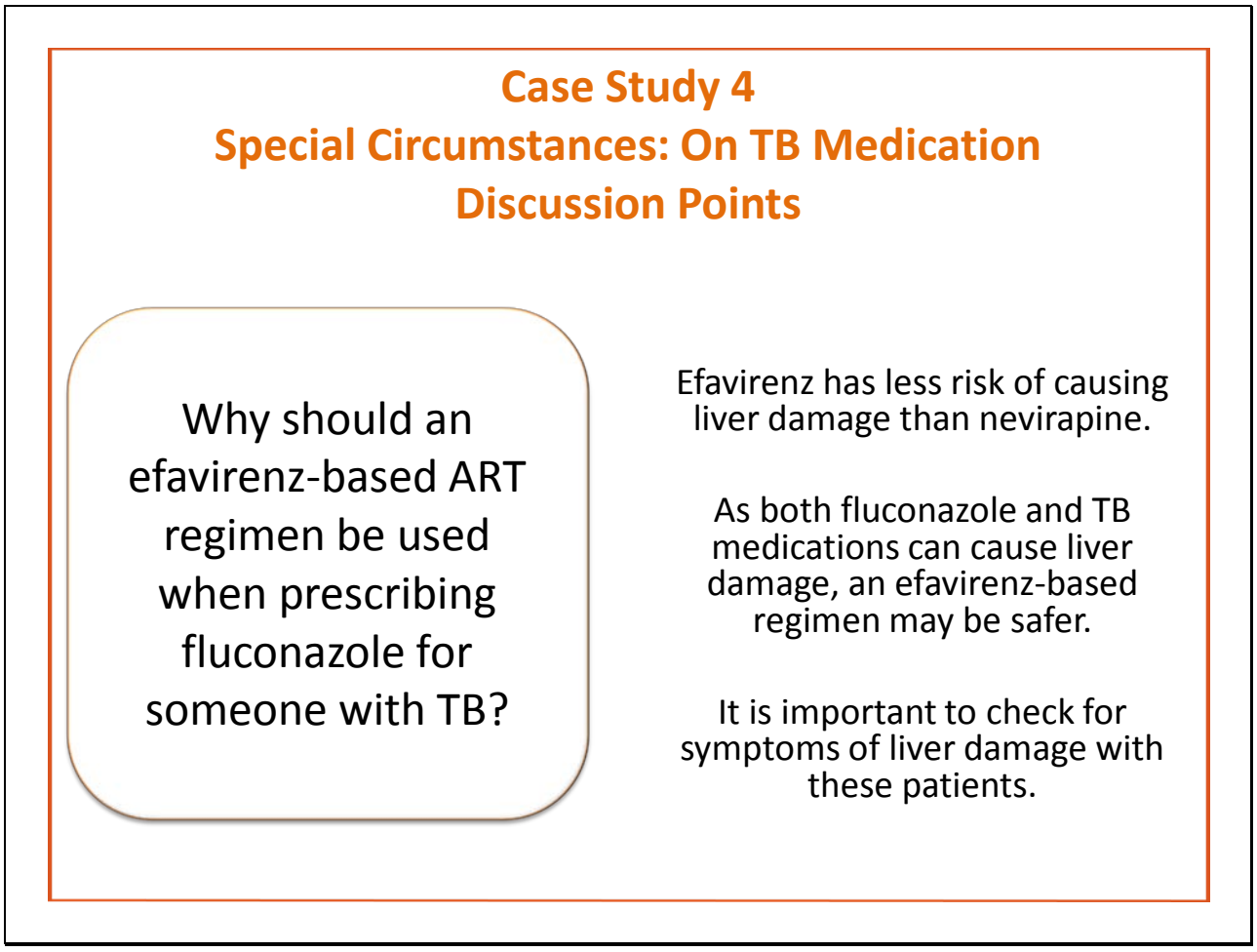

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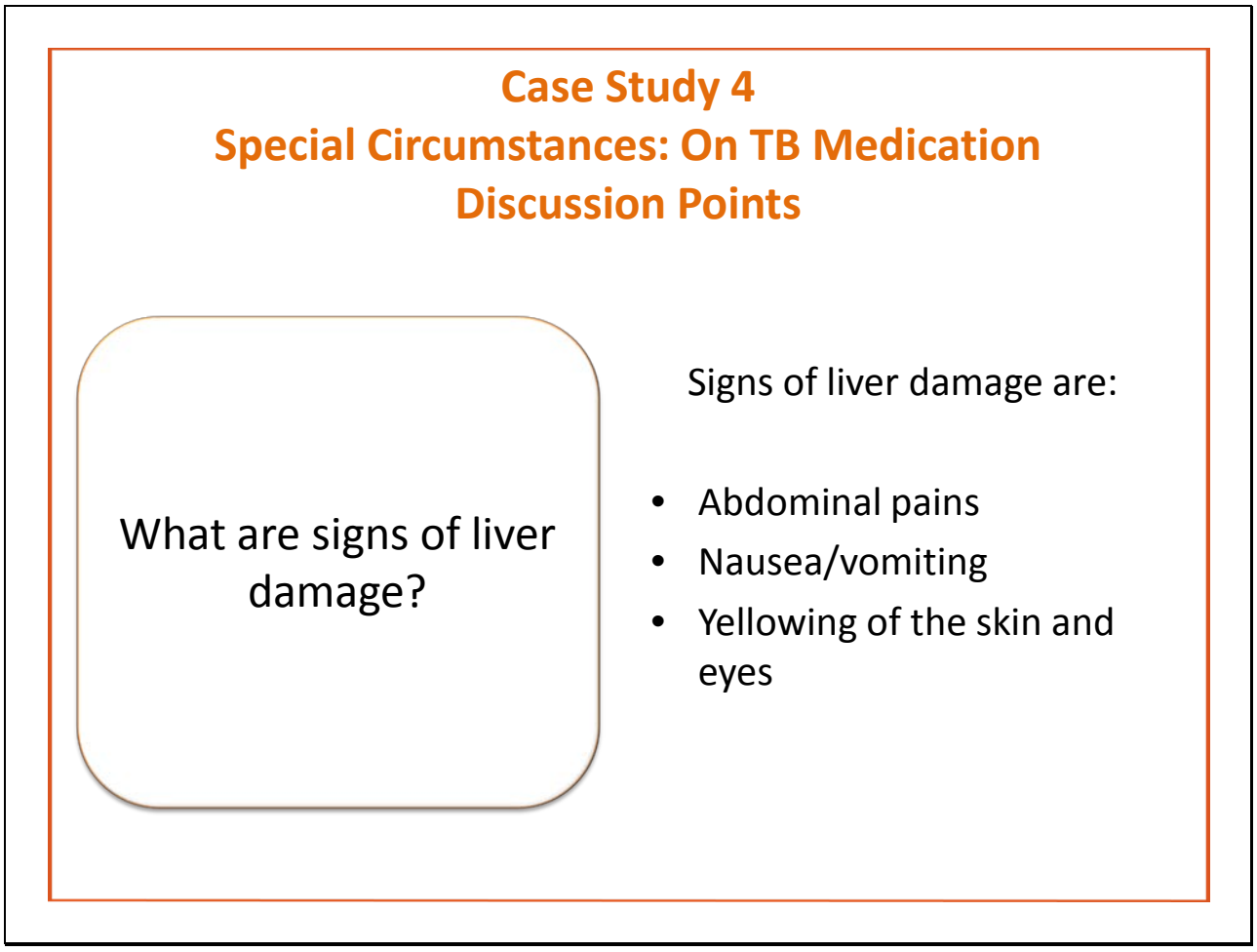

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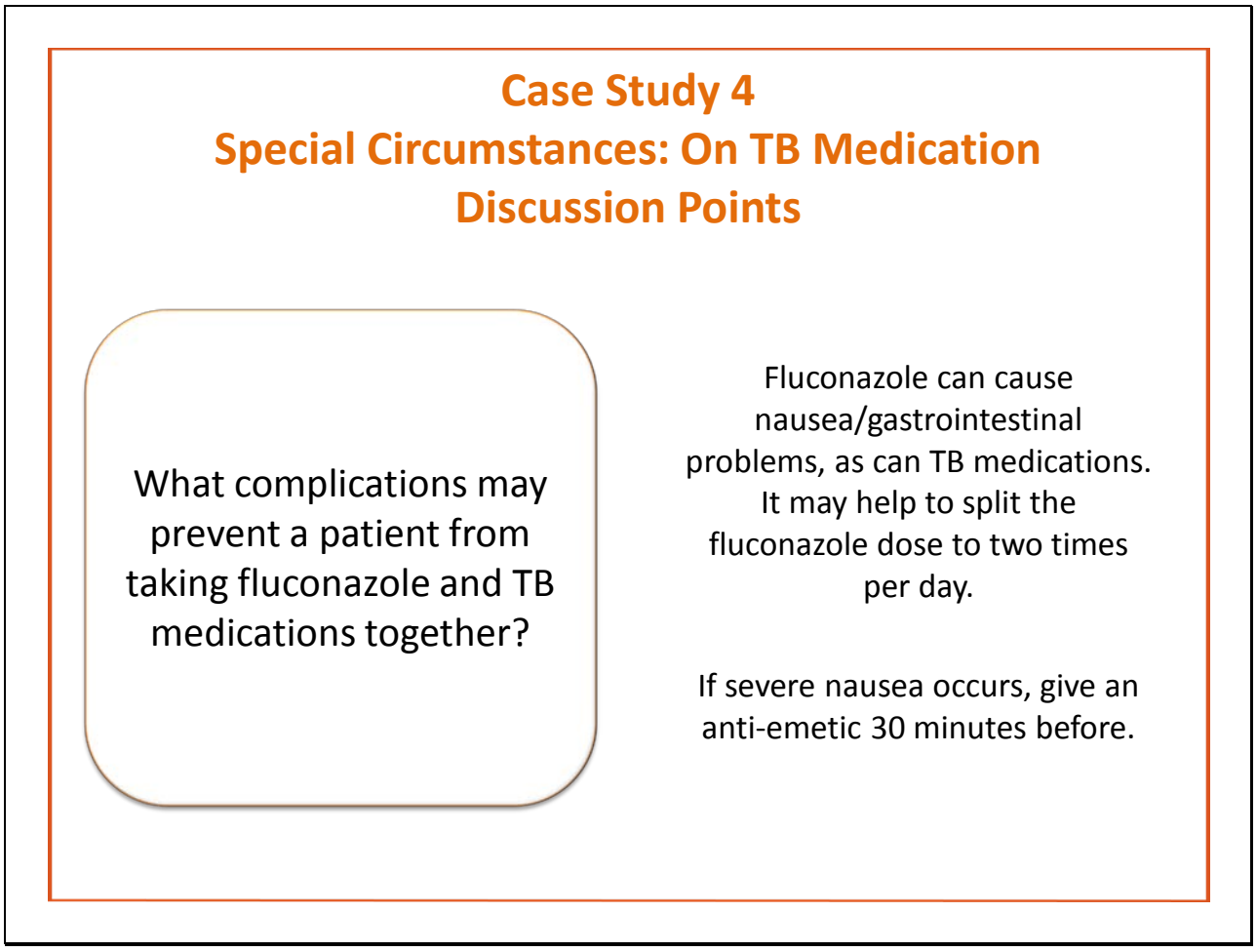

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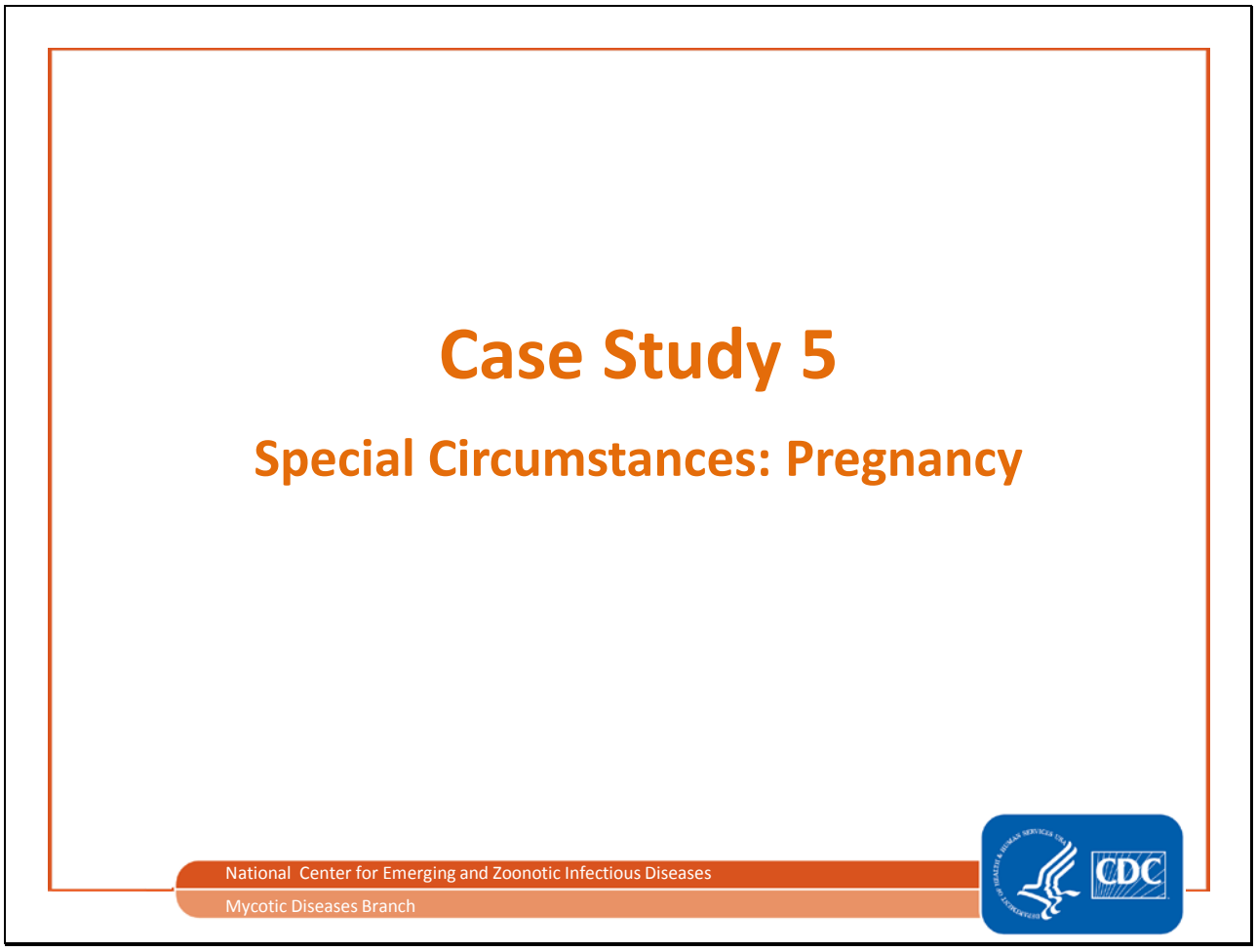

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Case Study 5
Special Circumstances: Pregnancy

- Patient history and initial presentation
  - 23 year-old woman, 20 weeks pregnant, referred to your clinic
  - Newly-diagnosed HIV-positive with a CD4 count of 42
  - She reports no headache, fever, neck stiffness, or sensitivity to light, and there are no positive findings upon examination of the patient
- Patient management
  - Baseline bloods ordered: full blood count, creatinine, ALT, and RPR
  - Serum cryptococcal antigen (CrAg) test: **positive**

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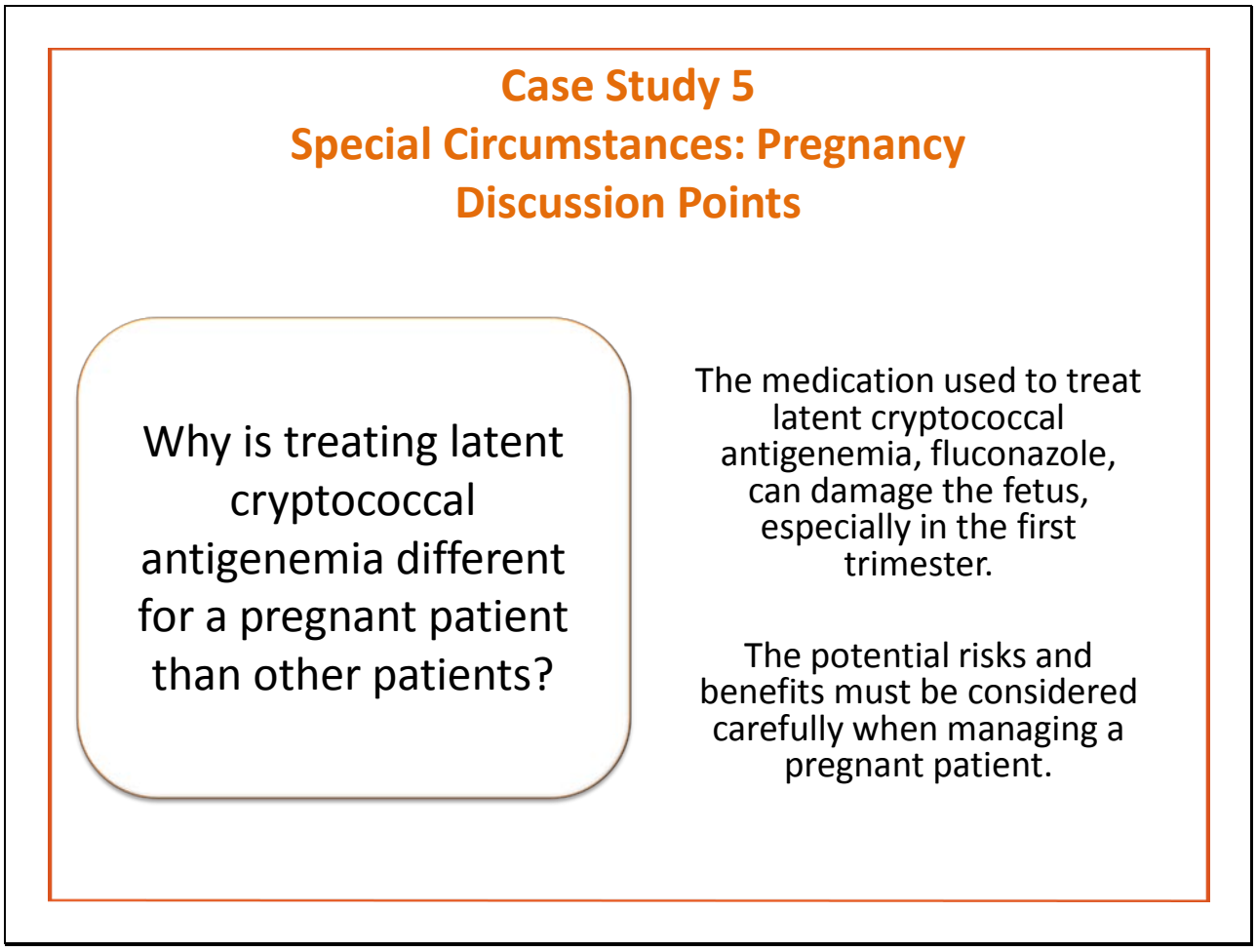

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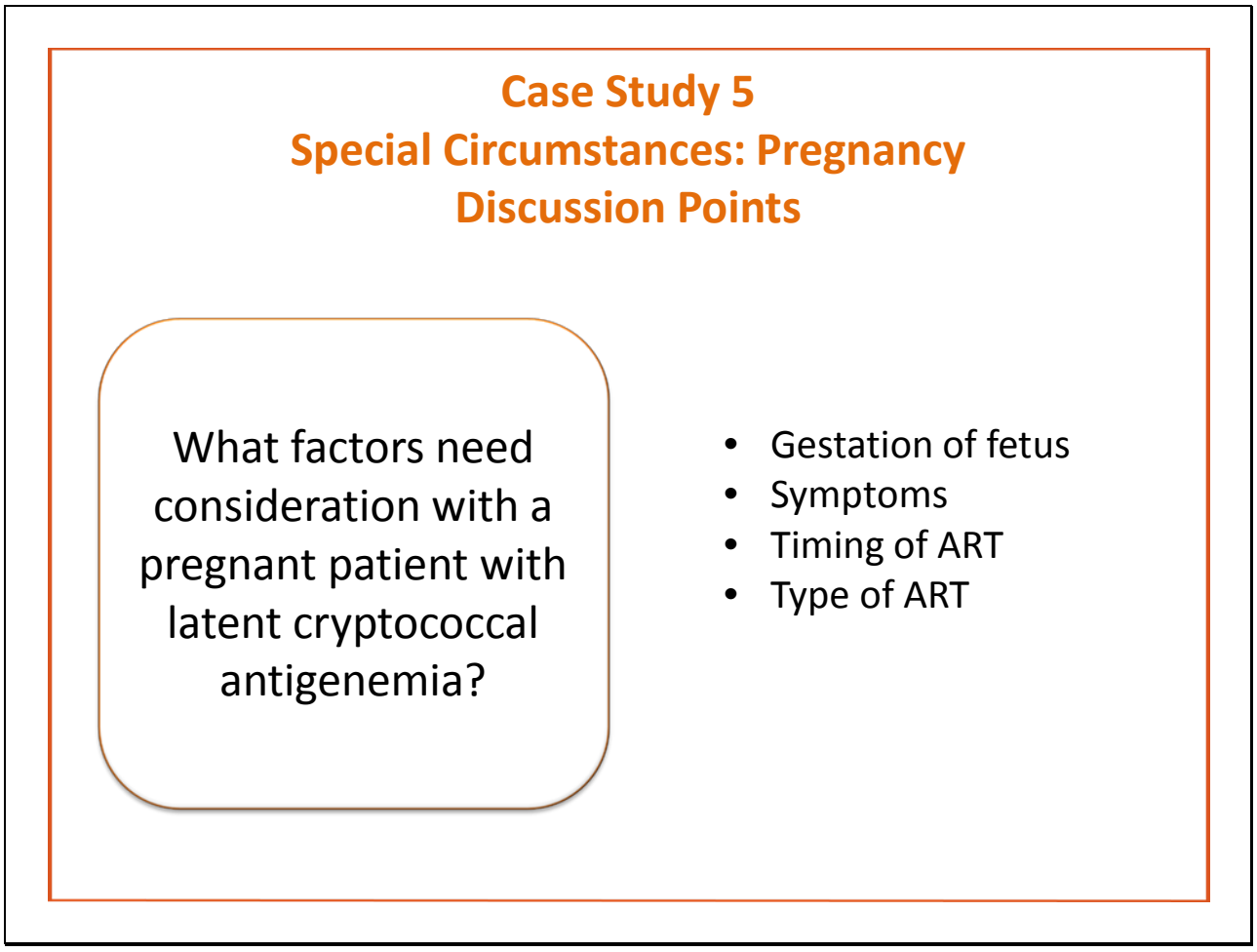

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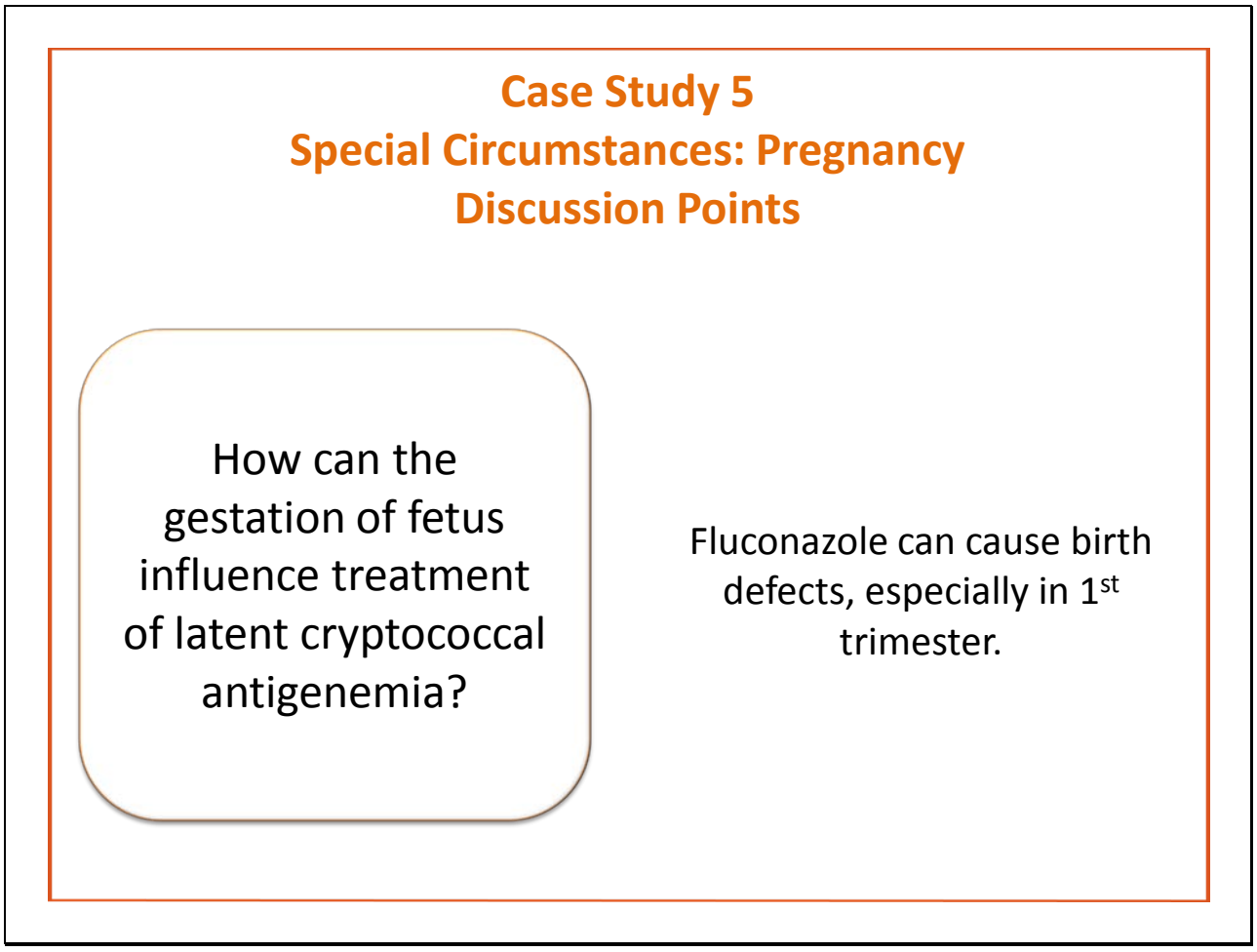

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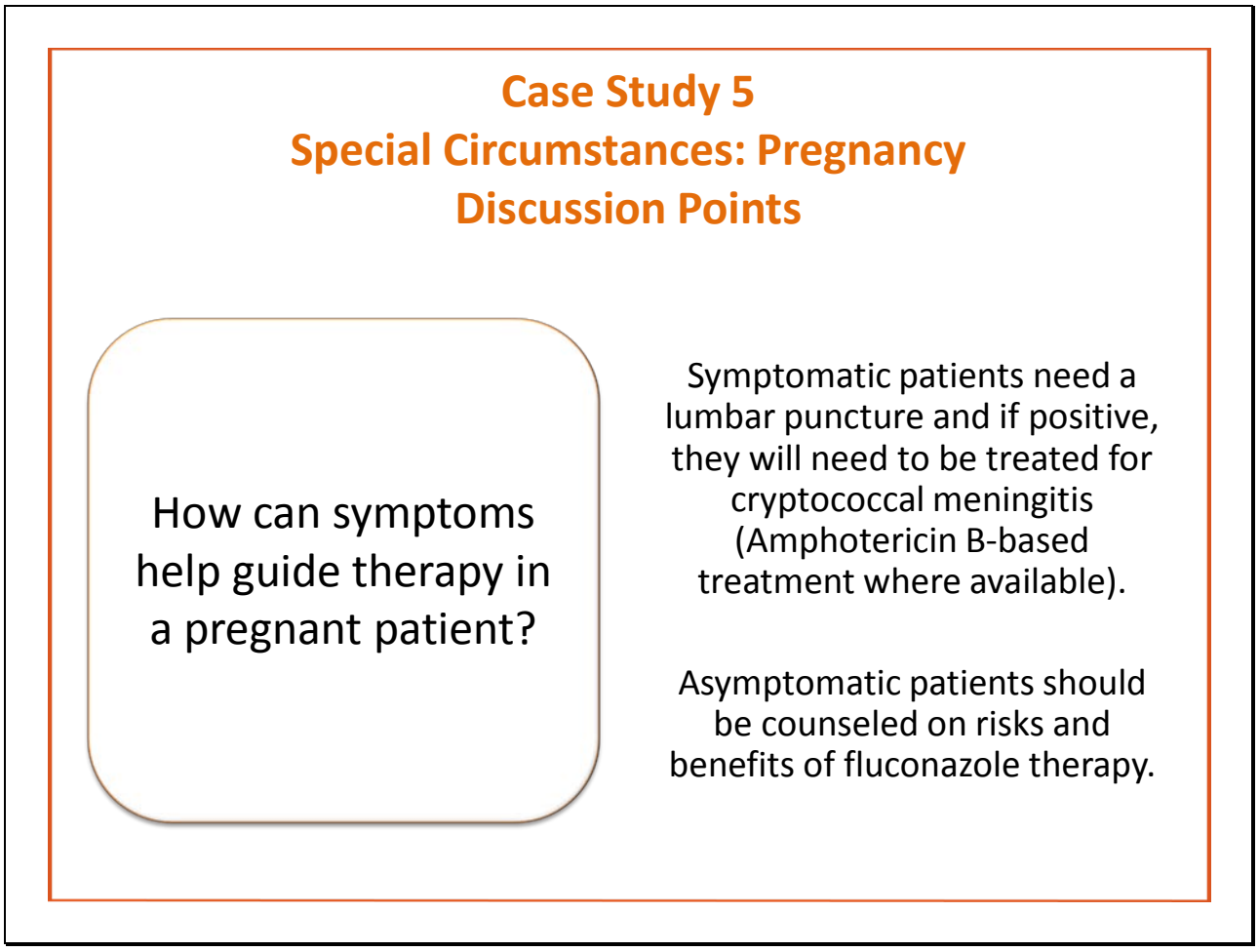

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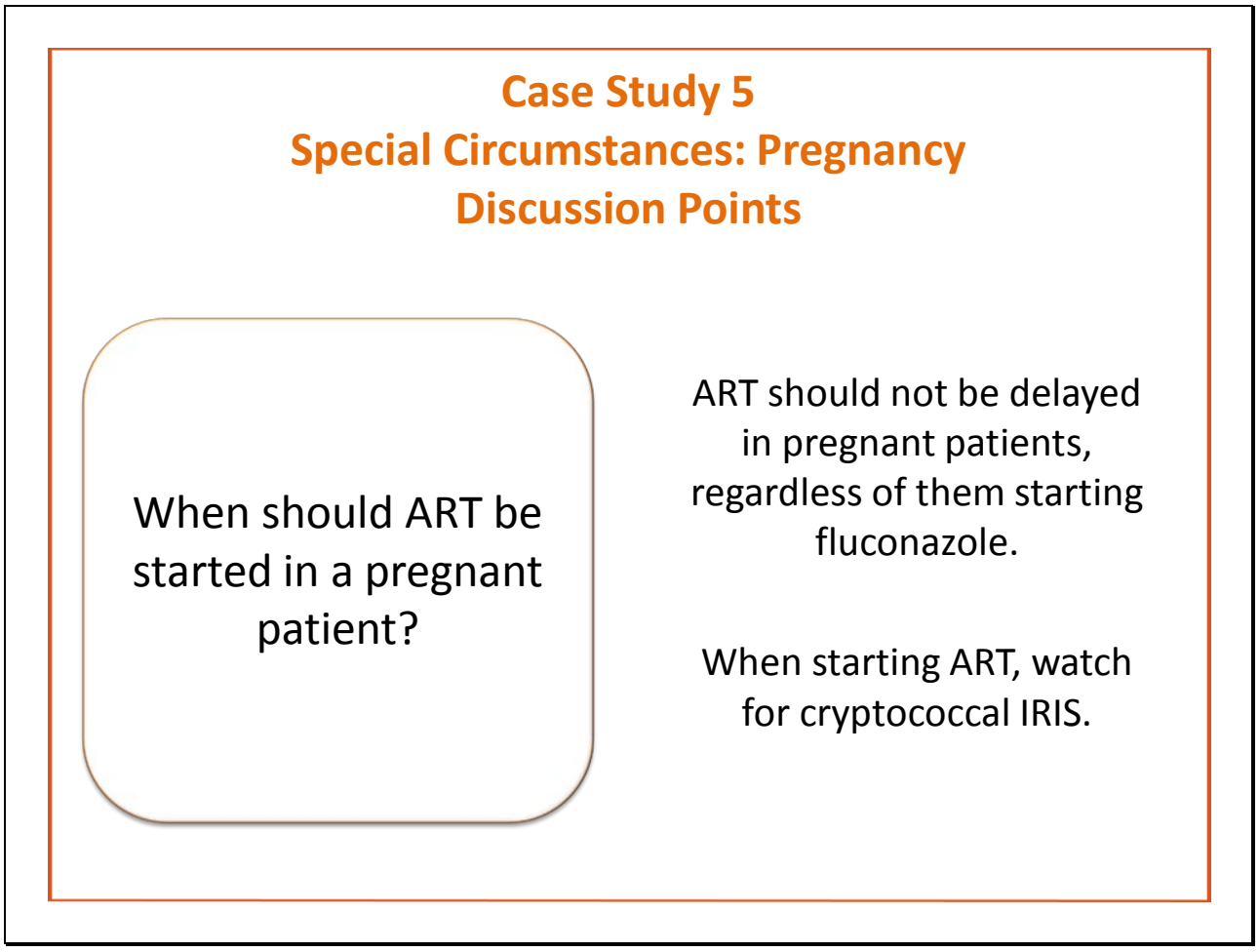

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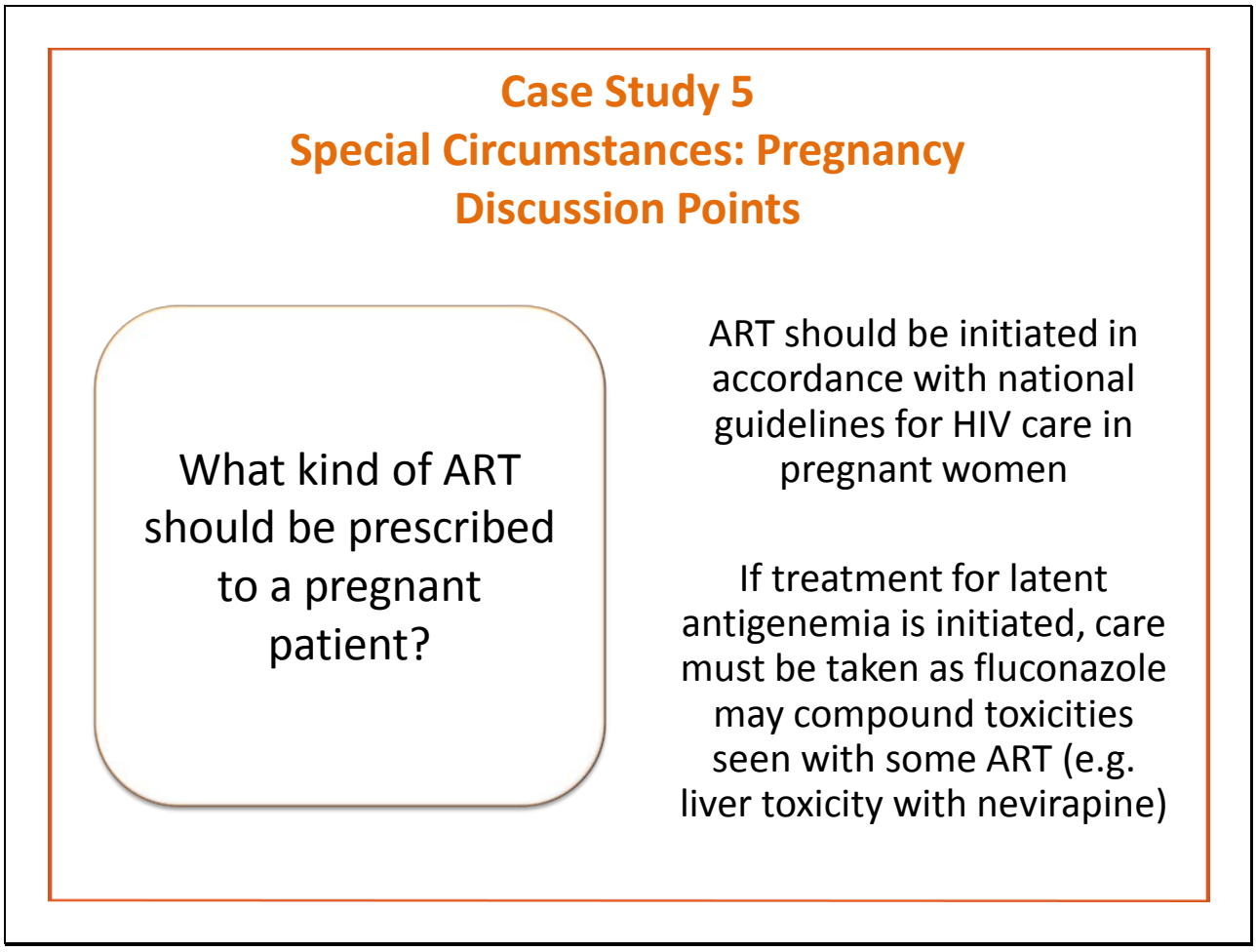

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For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: http://www.cdc.gov

National Center for Emerging and Zoonotic Infectious Diseases
Mycotic Diseases Branch