

Thyroid Eye Disease: Online Medical Education Unveils Knowledge Gaps and Barriers Regarding Targeted Immunotherapy

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BACKGROUND

Thyroid eye disease (TED) has a profound impact on quality of life. Several novel immunotherapies are in late-stage development. We aimed to identify learning needs on disease facts, diagnosis and management and attitudes towards novel treatment options among ophthalmologists and endocrinologists.



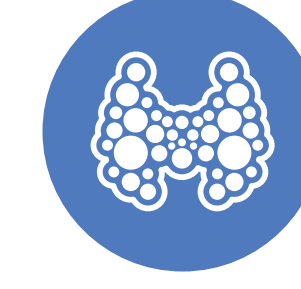
METHODS

Online 15 min, CPD- accredited 25-item clinical practice assessment of 20 knowledge questions with own and peer results as well as evidence-based feedback on correct answers plus 5 attitudinal polling questions

LEARNING OBJECTIVES:

- Increase knowledge on TED facts, treatment guidelines
- Self-assess learning needs on TED management

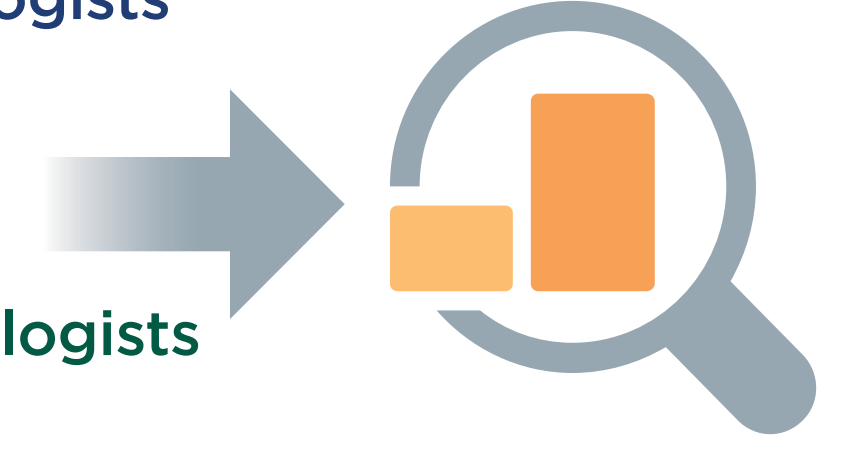
CME launched 6 Sep 2024; data are reported through 22 Oct 2024.



Endocrinologists
(n = 92)



Ophthalmologists
(n = 139)



RESULTS

TED DIAGNOSIS: LACK OF KNOWLEDGE USING CLINICAL ACTIVITY SCORING (CAS)¹

Question 1: According to a CAS of 1/7 points what is the TED phasing in this patient?²

Correct Answer: Inactive TED; Incorrect Answers: Patient does not have TED, Active TED, Initial TED

CORRECT RESULTS



¹https://eyewiki.org/w/images/2/29/CAS.jpg

Question 2: At follow-up visits, how should the CAS evaluation be administered?

Correct Answer: Using a 10-point scale; Incorrect Answers: Using a 7-point scale, CAS is not recommended for follow-up visits, CAS should only be used for follow-up visits in patients with an initial score of ≥ 3

CORRECT RESULTS



²A 25-year-old, Southeast Asian, female patient with a history of Hashimoto disease has been referred to you with symptoms of pain on eye movements and severe double vision in all directions. She has an exophthalmometry measurement of 18 mm in each eye, with normal visual function and markedly restricted eye movements.

TED DIAGNOSIS: LACK OF KNOWLEDGE IDENTIFYING ATYPICAL PRESENTATIONS

Question 3: Which of the above characteristics would be atypical for a new diagnosis of TED?³

Correct Answer: Unilateral presentation; Incorrect Answers: Historical thyroid dysfunction, Lack of orbital pain, Previous treatment with radioactive iodine

CORRECT RESULTS

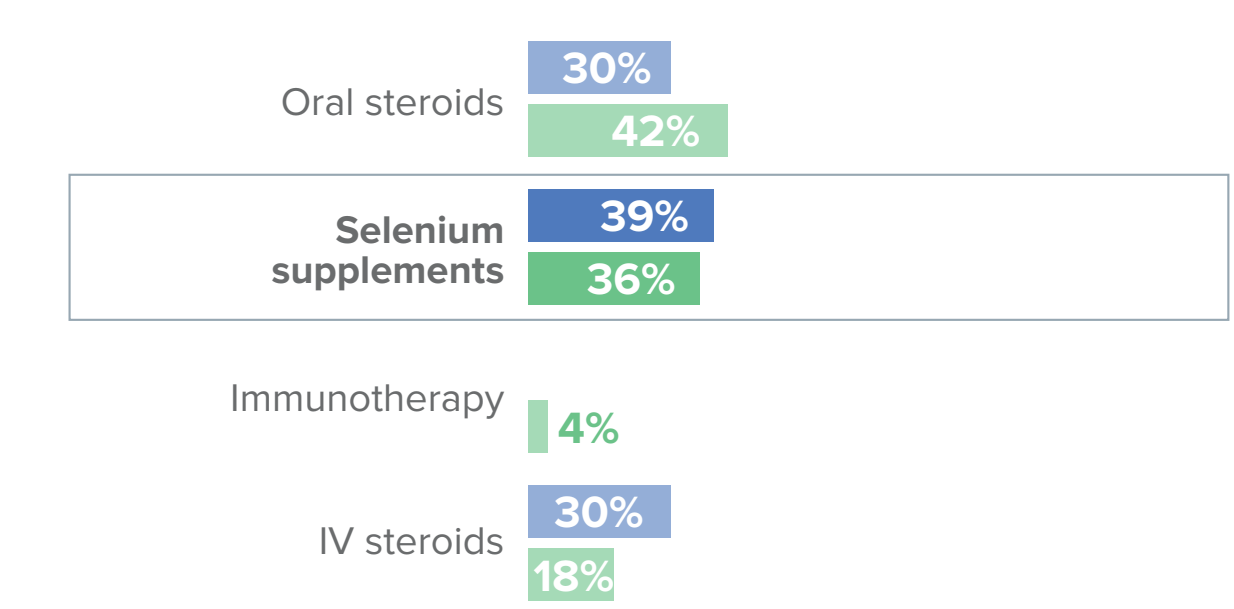


³An 86-year-old male with a history of overactive thyroid about 10 years ago treated with radioactive iodine is referred to you with unilateral proptosis but no ocular pain, no conjunctival redness, and decreased vision in the proposed eye.

TED MANAGEMENT: LACK OF KNOWLEDGE OF TREATMENT GUIDELINES

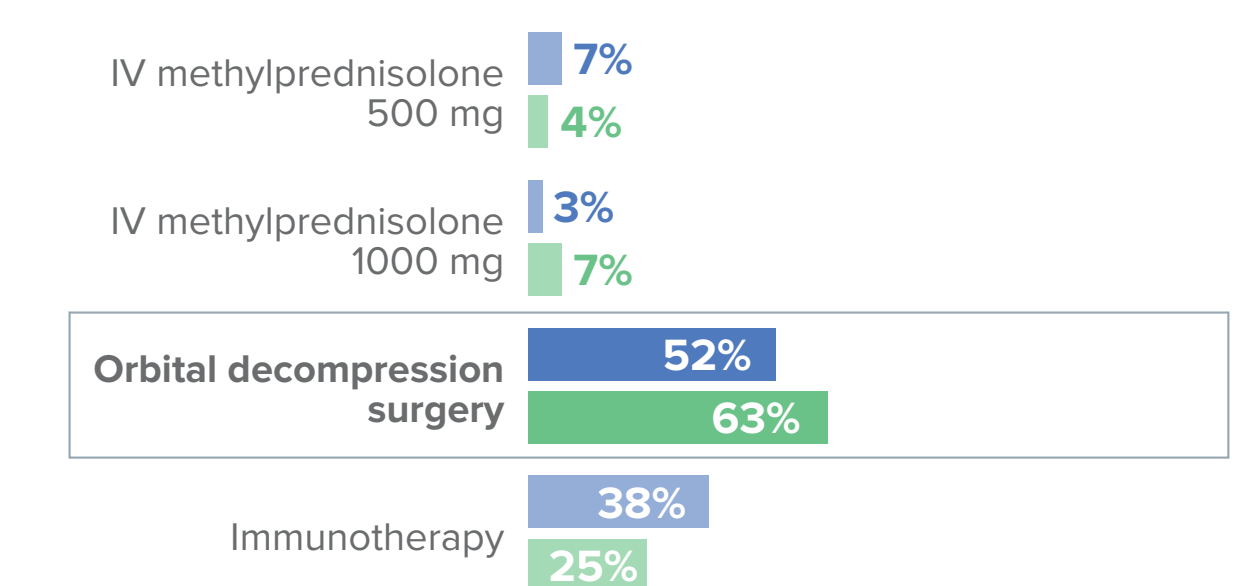
Question 4: According to EUGOGO guidelines, which of the following is the most appropriate first-line treatment for the majority of patients with mild active TED?

■ Endocrinologists ■ Ophthalmologists



Question 5: Which of the following treatments is recommended for patients with sight-threatening TED who do not show a complete response to high-dose IV steroids?

■ Endocrinologists ■ Ophthalmologists



TED MANAGEMENT: LACK OF KNOWLEDGE ON IMMUNOTHERAPY TARGETS AND CLINICAL DATA

Question 6: Which receptor does teprotumumab target?

Correct Answer: IGF-1 receptor; Incorrect Answers: TSH receptor, CD20, IL-6

CORRECT RESULTS



Question 7: Rituximab is a monoclonal antibody immunotherapy targeting CD20. CD20 is a surface antigen expressed on which cell type?

Correct Answer: B cells; Incorrect Answers: T cells, Orbital fibroblasts, Macrophages

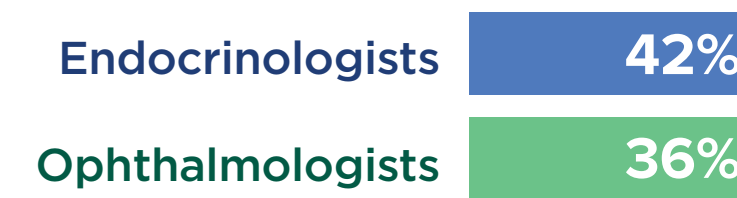
CORRECT RESULTS



Question 8: Which of the following immunotherapies has been shown to be most effective for reduction of proptosis, based on evidence from clinical trials?

Correct Answer: Teprotumumab; Incorrect Answers: Rituximab, Tocilizumab

CORRECT RESULTS



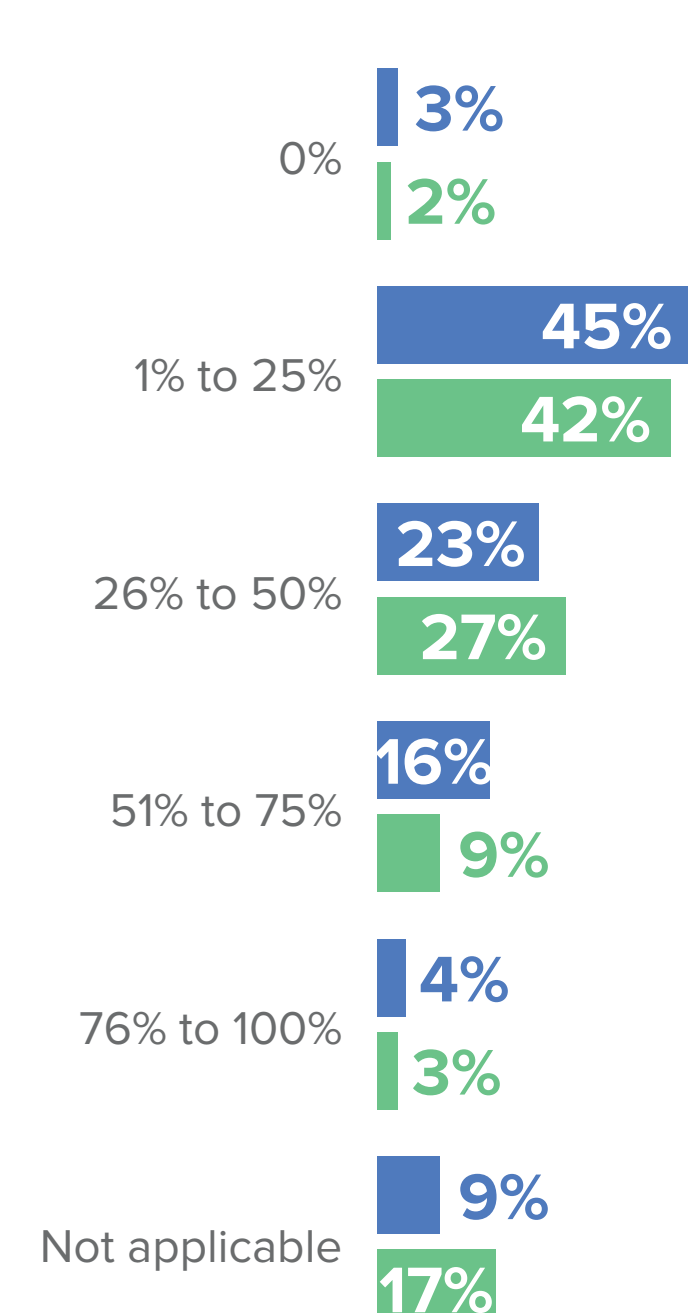
PATIENT PROPORTION WITH TED NOT ADEQUATELY CONTROLLED IN MY PRACTICE



68% of Endocrinologists and **69% of Ophthalmologists** state that up to half of their patients are not adequately controlled on local therapy or corticosteroids

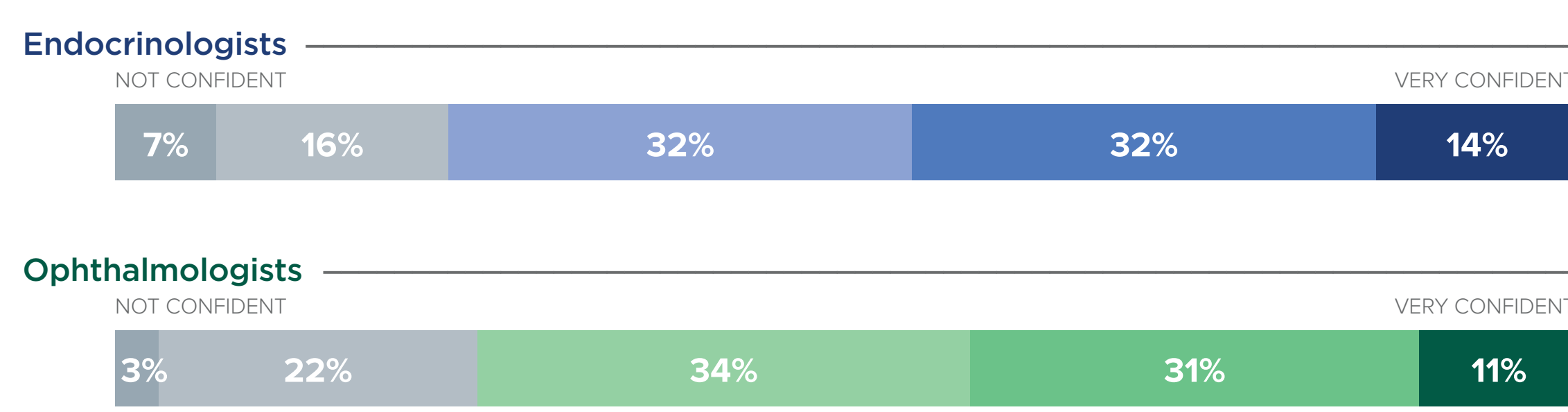
Approximately what proportion of your patients with active TED are not adequately controlled on local therapy and/or corticosteroids?

■ Endocrinologists ■ Ophthalmologists



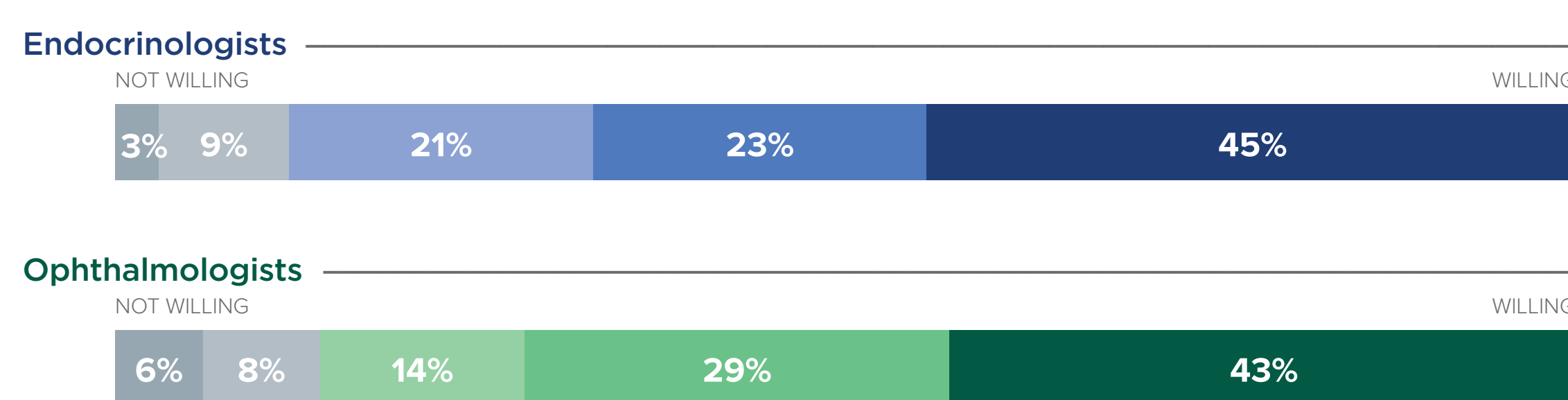
SELF-ASSESSED CONFIDENCE TED DIAGNOSIS AND MANAGEMENT

How confident do you feel now about diagnosis and management of TED?



WILLINGNESS TO PRESCRIBE AN APPROVED IMMUNOTHERAPY, SPECIFICALLY DEVELOPED FOR TED

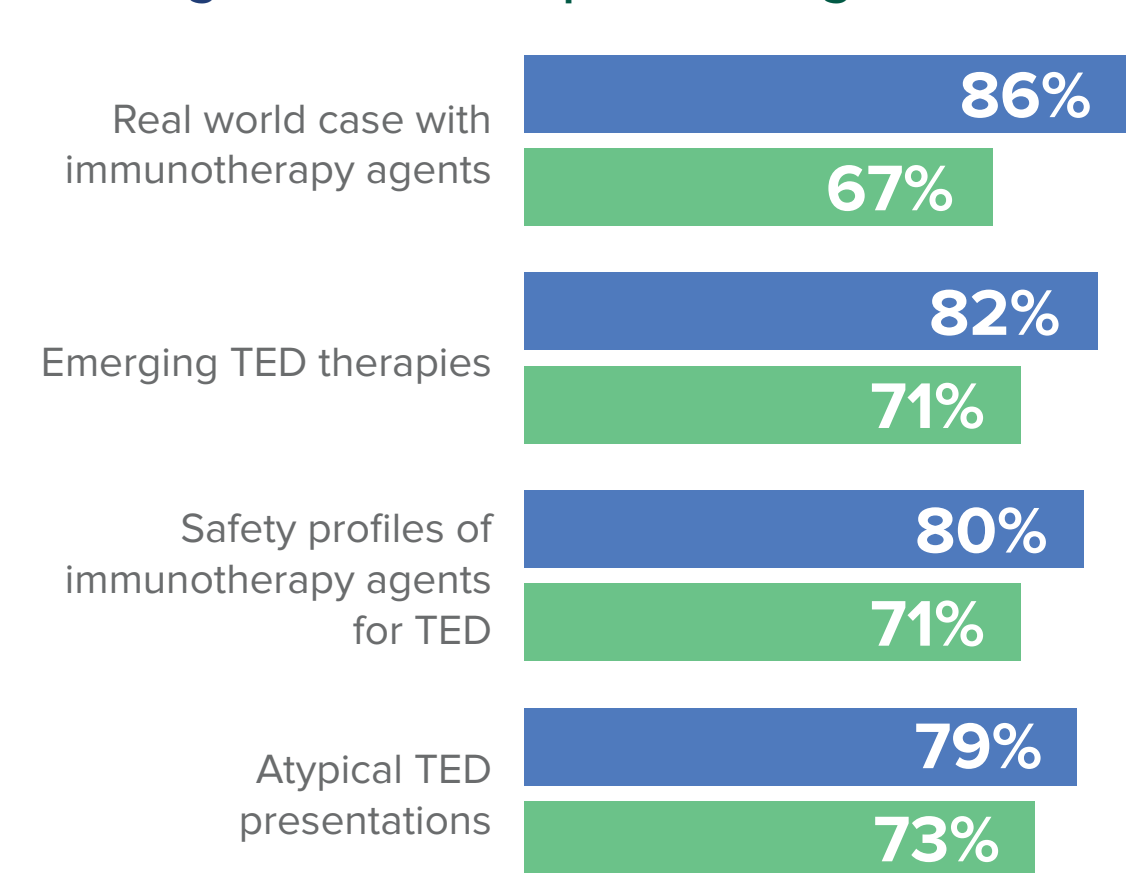
How willing would you be to prescribe an immunotherapy agent that was developed specifically for TED, if/when approved, to a patient with TED?



TOP 3 SELF-IDENTIFIED LEARNING NEEDS

Which of the following topics would you be interested in learning more about? [select all that apply]

■ Endocrinologists ■ Ophthalmologists



TOP 3 KEY BARRIERS FOR IMMUNOTHERAPY USE IN MY PRACTICE

Which of the following would you personally consider a barrier to using immunotherapy in your practice? [select all that apply]

■ Endocrinologists ■ Ophthalmologists

- | | |
|--|--|
| 1. Cost | 1. Lack of availability |
| 2. Lack of availability | 2. Cost |
| 3. Lack of knowledge of safety/effectiveness | 3. Lack of knowledge of safety/effectiveness |

CONCLUSIONS

Online medical education is an effective method to identify TED learning needs to help the adoption of novel targeted immunotherapies for patients who can benefit from them.

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Conflicts of Interest: Siggi Trier Consultant for Medscape, Kate Carpenter Employee of Medscape, Maya Khalaf Employee of Medscape, Tiphaine Barras Employee of Medscape, Vickie Lee Principal Investigator for Thyroid Eye Disease trials for Horizon Pharma/Amgen, Inc.; Lassen Pharmaceuticals; Sling Pharmaceuticals; Viridian Pharmaceuticals. She has been an Advisory Board Consultant for Amgen, Inc. Horizon Pharma (former) & Viridian Pharmaceuticals

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