

Beyond the Guidelines – Breast Cancer Investigator Survey

**N = 30 Completed Surveys
May 30, 2017**

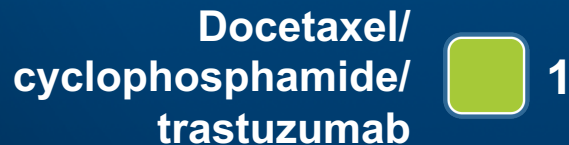
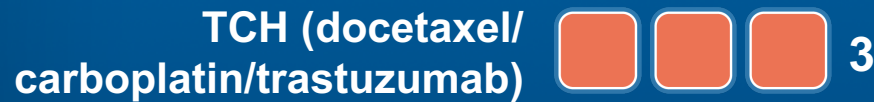
Survey Respondents (N = 30)

1. Kimberly L Blackwell, MD
2. Joanne L Blum, MD, PhD
3. Adam M Brufsky, MD, PhD
4. Harold J Burstein, MD, PhD
5. Sarat Chandarlapaty, MD, PhD
6. Stephen Chia, MD
7. Rowan T Chlebowski, MD, PhD
8. Melody A Cobleigh, MD
9. Angelo Di Leo, MD, PhD
10. Kevin R Fox, MD
11. Karen A Gelmon, MD
12. Charles E Geyer Jr, MD
13. Matthew Goetz, MD
14. Julie R Gralow, MD
15. Sara A Hurvitz, MD
16. Peter A Kaufman, MD
17. Hannah M Linden, MD
18. Kathy D Miller, MD
19. Rita Nanda, MD
20. Ruth M O'Regan, MD
21. Joyce O'Shaughnessy, MD
22. Mark D Pegram, MD
23. Lajos Pusztai, MD, PhD
24. Mark Robson, MD
25. Hope S Rugo, MD
26. Lee S Schwartzberg, MD
27. Joseph A Sparano, MD
28. Sandra M Swain, MD
29. Sara M Tolaney, MD, MPH
30. Eric P Winer, MD

N = 30 investigators

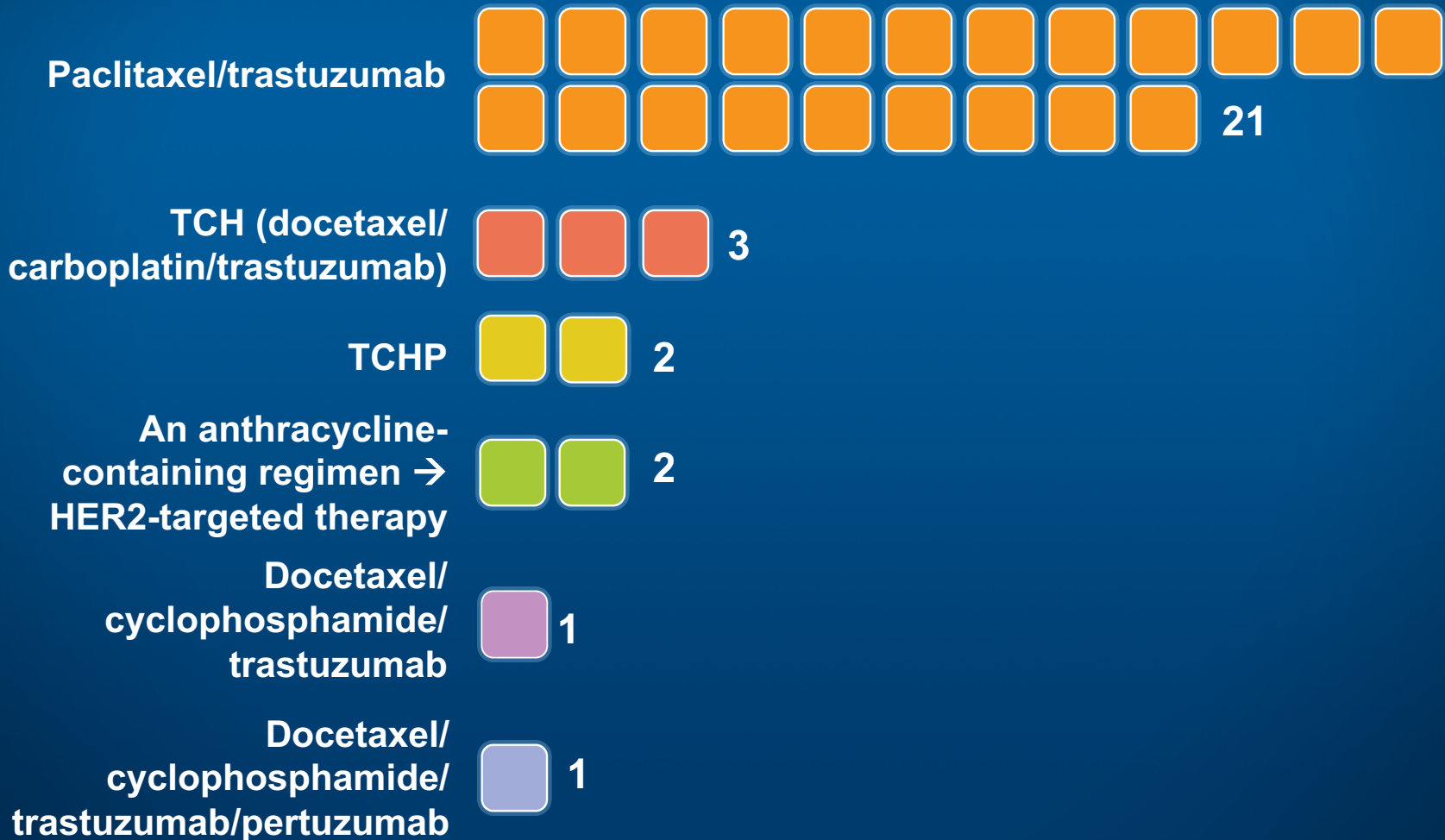
MODULE 1: Adjuvant and Neoadjuvant Therapy for HER2-Positive Disease

What adjuvant regimen would you generally recommend for a 65-year-old patient who is s/p surgery for a 1.0-cm, ER-negative, HER2-positive, node-negative tumor?



N = 30 investigators

What adjuvant regimen would you generally recommend for a 75-year-old patient who is s/p surgery for a 1.0-cm, ER-negative, HER2-positive, node-negative tumor?



N = 30 investigators

When you administer pertuzumab in the adjuvant setting, how long do you administer it?

I do not administer pertuzumab in the adjuvant setting



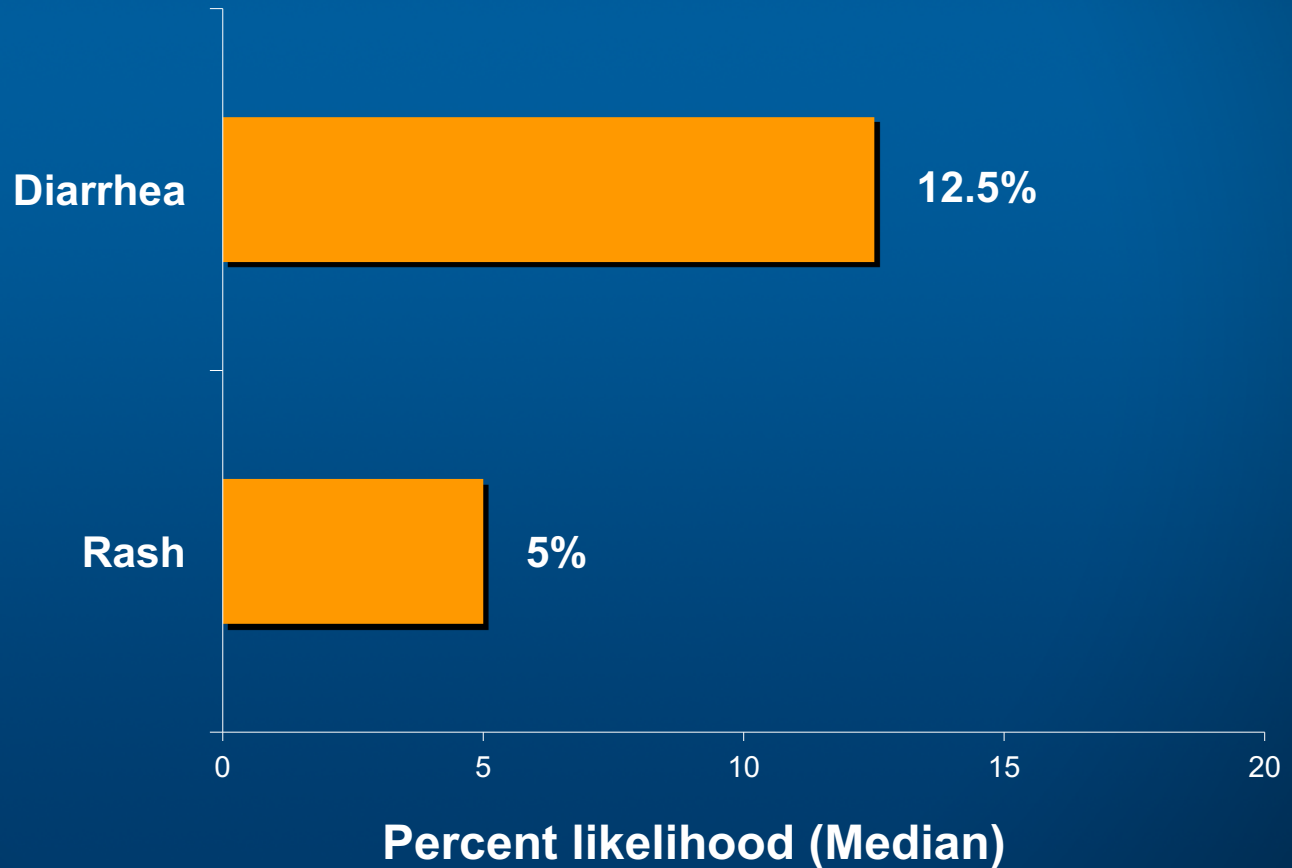
During chemotherapy only



During chemotherapy and continued to 1 year



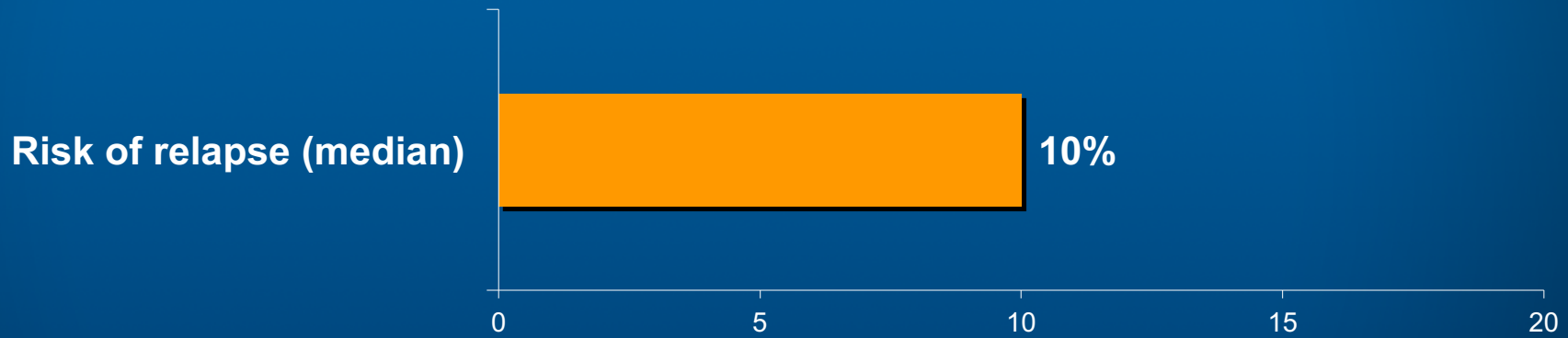
For a patient who is about to begin 1 year of adjuvant pertuzumab, what would you tell them is their percent likelihood of dose modification because of...



N = 30 investigators

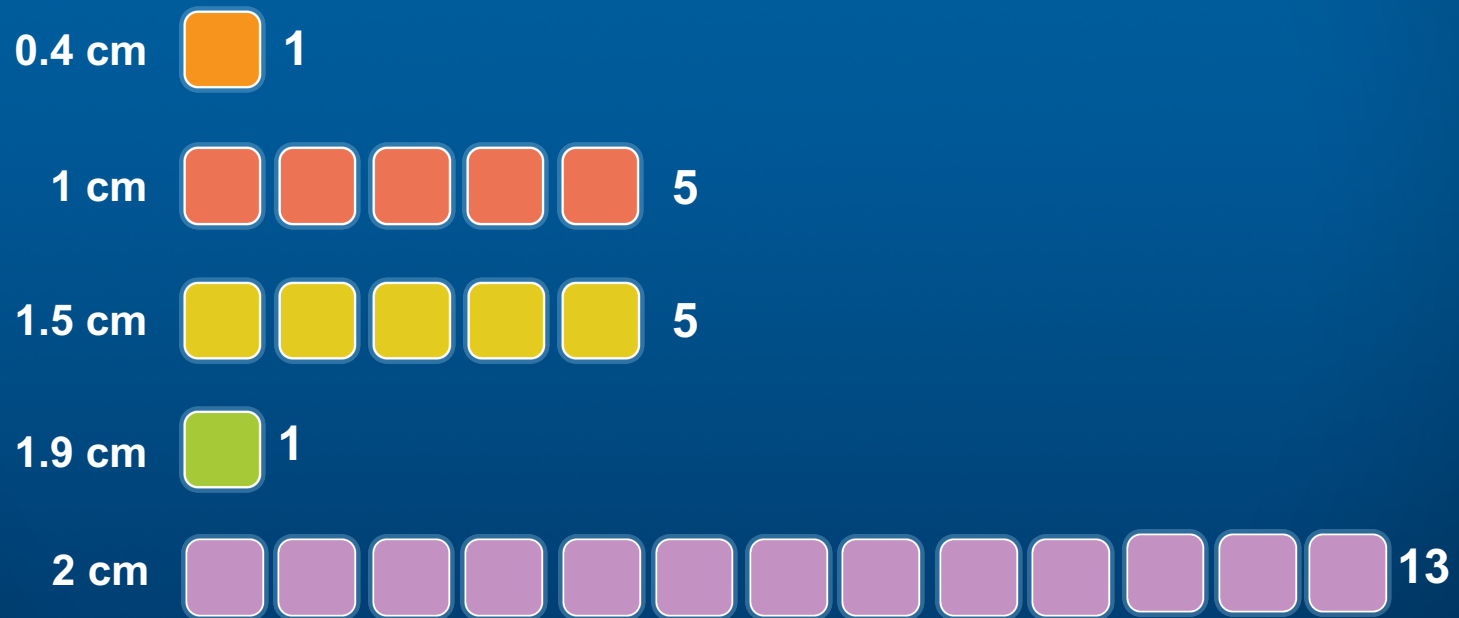
Research
To Practice®

A 40-year-old woman with a 2-cm, ER-negative, HER2-positive tumor and 1 positive node received adjuvant TCH followed by a year of trastuzumab/pertuzumab. What's your best estimate of this patient's risk of relapse after treatment if no further therapy is administered?



N = 30 investigators

For a 65-year-old patient with a biopsy showing ER-negative/HER2-positive breast cancer and clinically negative axilla, what is the size of the smallest tumor for which you would use neoadjuvant versus adjuvant treatment (assume breast conservation is possible at presentation)?

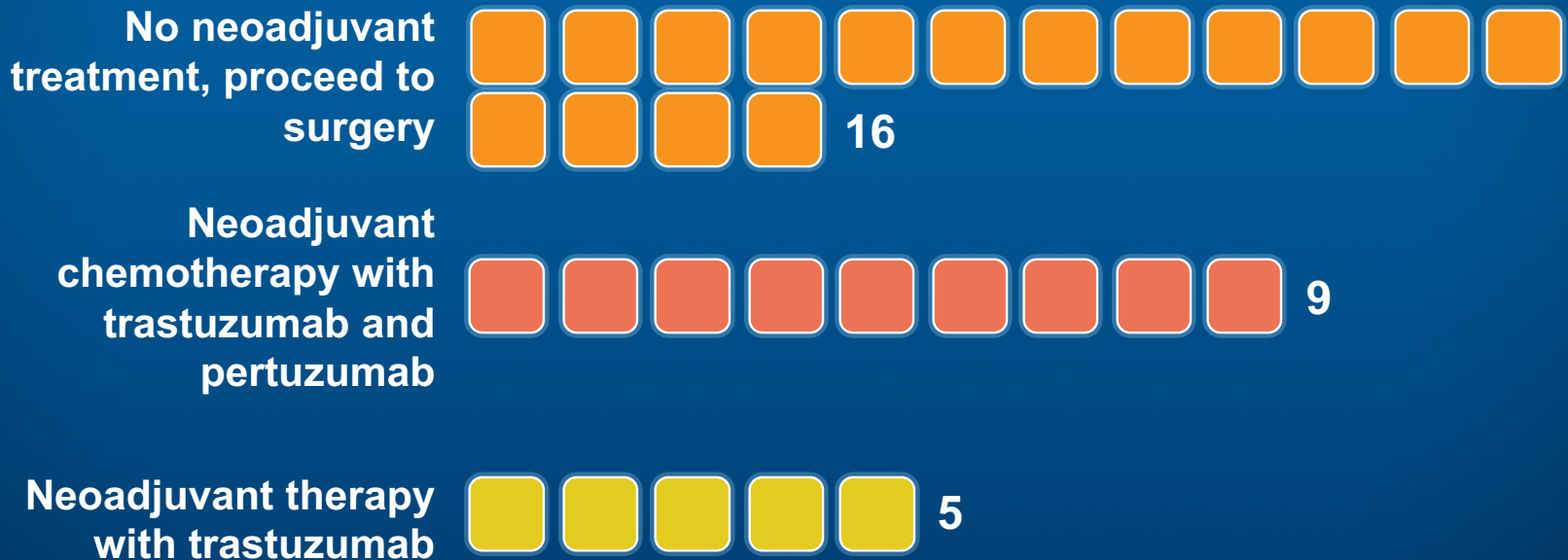


MEDIAN: 2 cm

N = 25 investigators

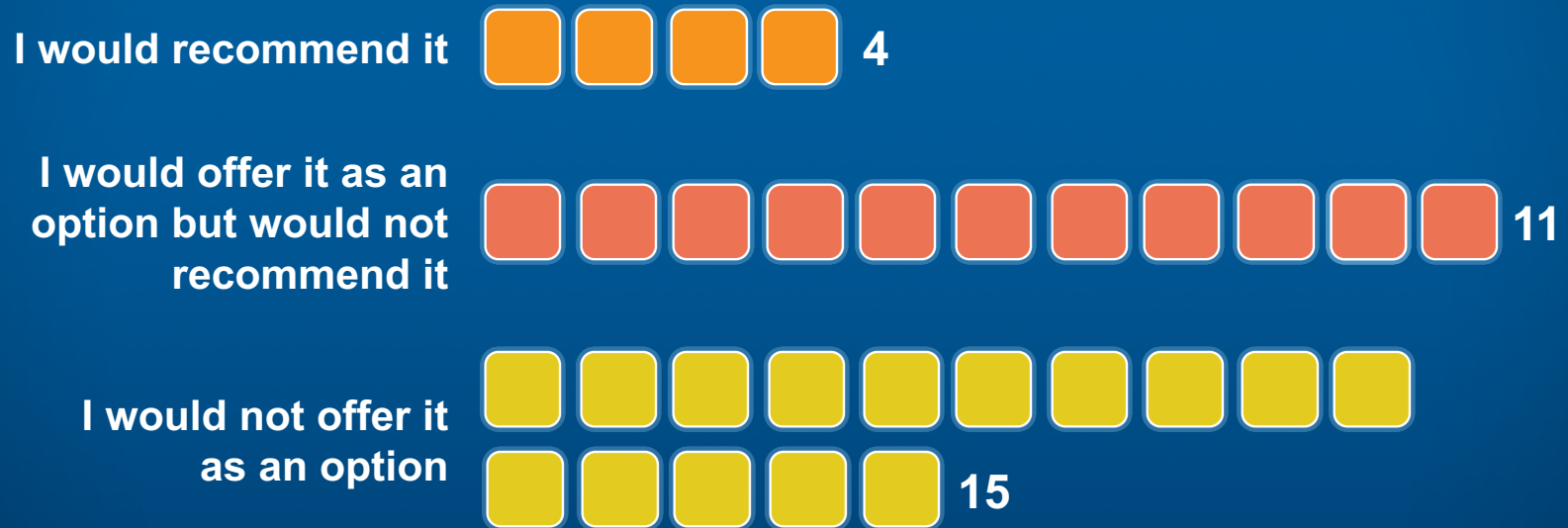
Research
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What neoadjuvant systemic treatment, if any, would you most likely administer to a 65-year-old patient with a 1.5-cm, ER-negative/HER2-positive invasive ductal carcinoma (IDC) and a clinically negative axilla?



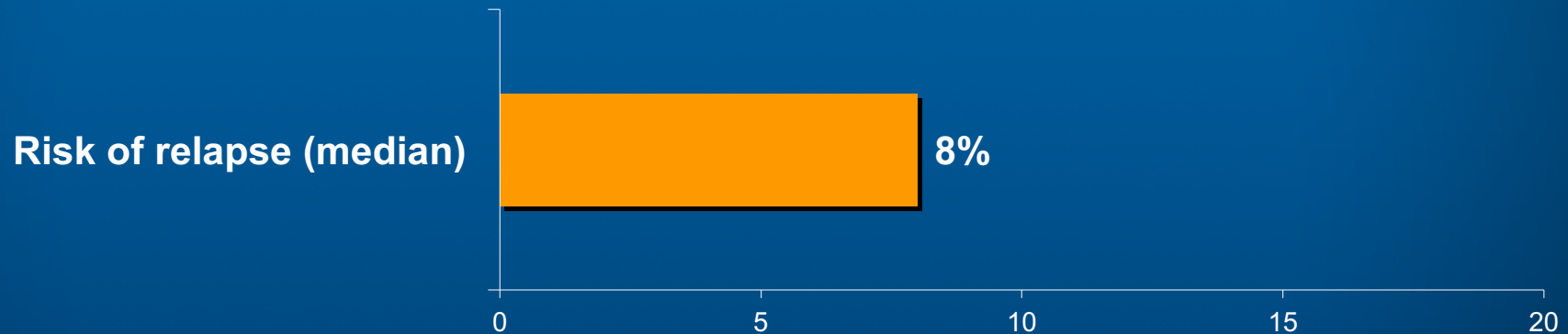
N = 30 investigators

If neratinib were approved for use as postadjuvant therapy, would you discuss it as an option for the patient in the previous question?



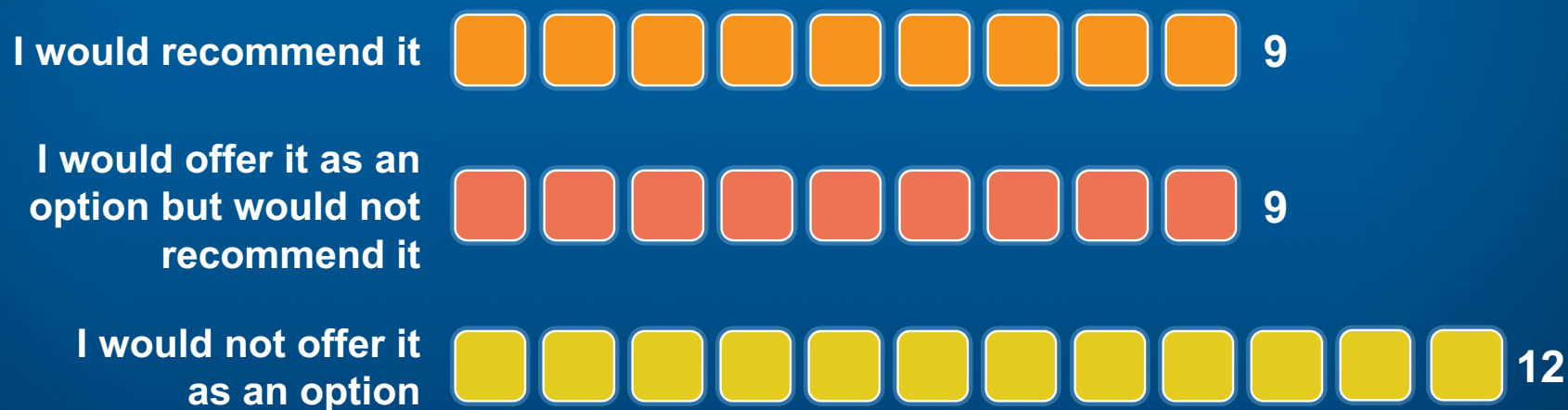
N = 30 investigators

A 40-year-old woman with a 2-cm, ER-positive, HER2-positive tumor and 1 positive node received adjuvant TCH followed by a year of trastuzumab/pertuzumab. What's your best estimate of this patient's risk of relapse after treatment if no further therapy is administered?



N = 30 investigators

If neratinib were approved for use as postadjuvant therapy, would you discuss it as an option for the patient in the previous question?



N = 30 investigators

MODULE 2: Use of Genomic Assays and Biomarkers to Assist in the Management of ER-Positive Early BC

A 65-year-old patient is s/p breast-conserving surgery for a Grade 2, ER-positive, HER2-negative, node-negative IDC. In general, would you likely order a genomic tumor assay if the patient's tumor was...

| | 0.8 centimeters* | 1.5 centimeters | 2.5 centimeters |
|--------------------------|-----------------------------|----------------------------|----------------------------|
| No | 16 | 1 | 1 |
| Yes, 21-gene signature | 13 | 28 | 28 |
| Yes, 70-gene signature | 0 | 1 | 1 |
| Yes, Breast Cancer Index | 0 | 0 | 0 |
| Yes, PAM50 signature | 0 | 0 | 0 |

* N = 29 investigators

N = 30 investigators

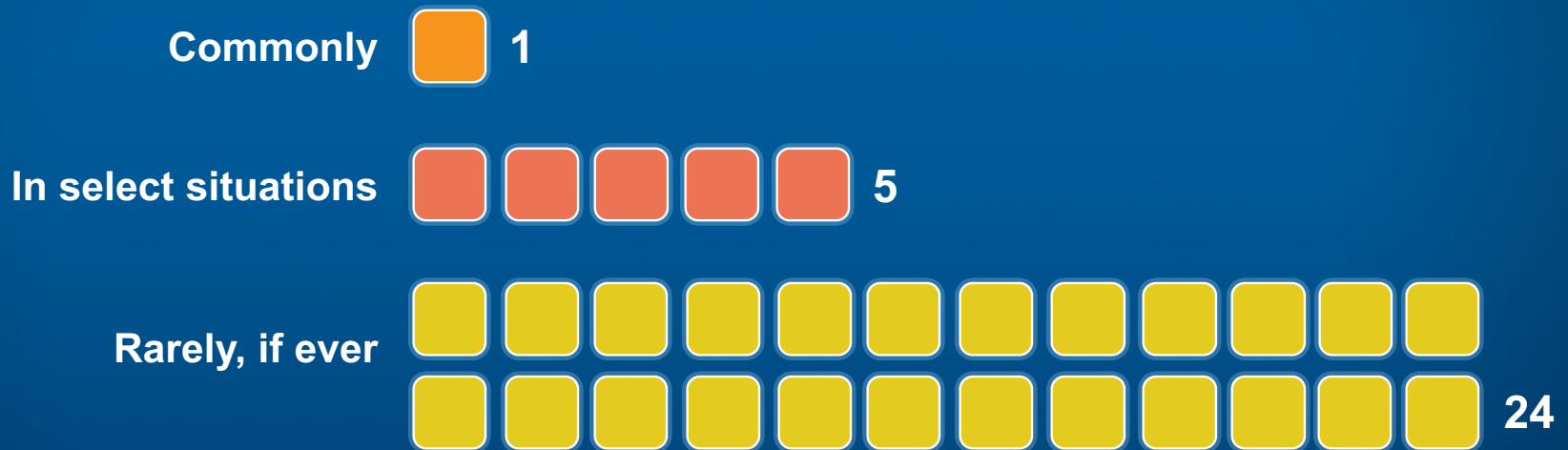
A 60-year-old patient is s/p breast-conserving surgery for a Grade 2, ER-positive, HER2-negative, node-positive IDC. In general, would you likely order a genomic tumor assay if the patient had...

| | 1 micrometastatic deposit (1 mm) | 1 positive node* | 4 positive nodes |
|--------------------------|---|-------------------------|-------------------------|
| No | 0 | 4 | 28 |
| Yes, 21-gene signature | 27 | 20 | 1 |
| Yes, 70-gene signature | 3 | 5 | 0 |
| Yes, Breast Cancer Index | 0 | 0 | 0 |
| Yes, PAM50 signature | 0 | 0 | 1 |

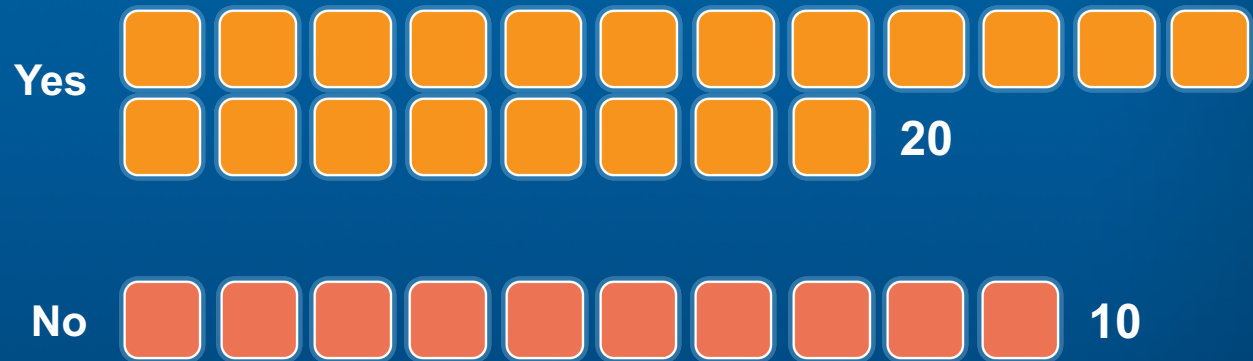
* N = 29 investigators

N = 30 investigators

To what extent are you using the 70-gene signature to assist in your decision-making regarding adjuvant therapy for patients with ER-positive, HER2-negative breast cancer?



In general, do you believe that the 70-gene signature provides clinically relevant and reliable risk recurrence information?



N = 30 investigators

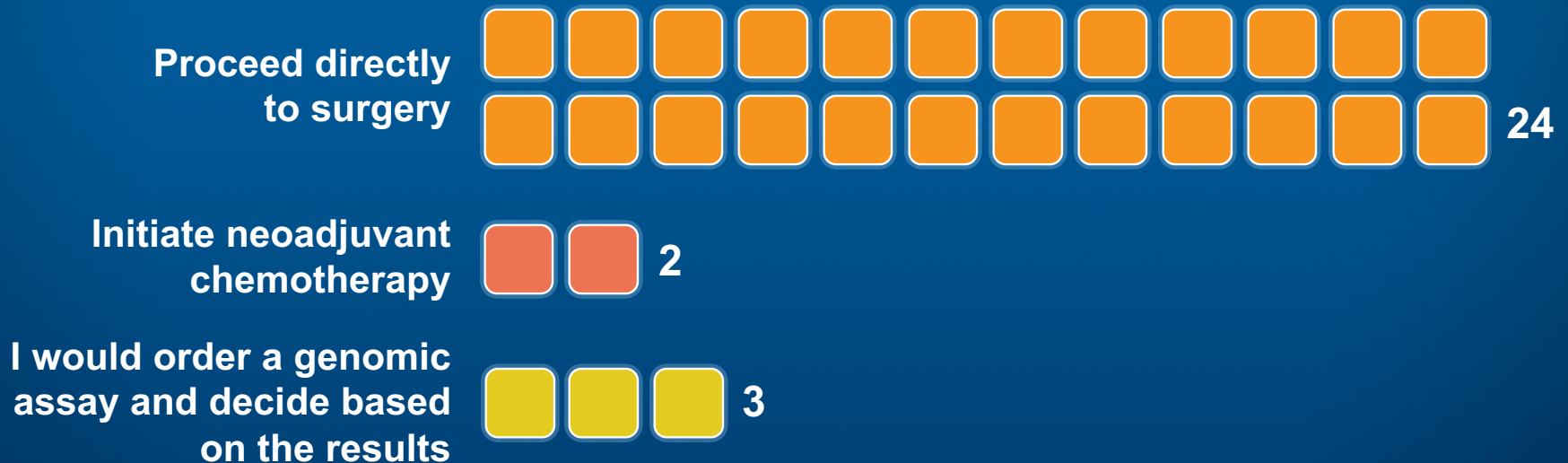
To what extent are you using genomic assays to assist in treatment decision-making in the neoadjuvant setting?

Commonly  3

In select situations  9

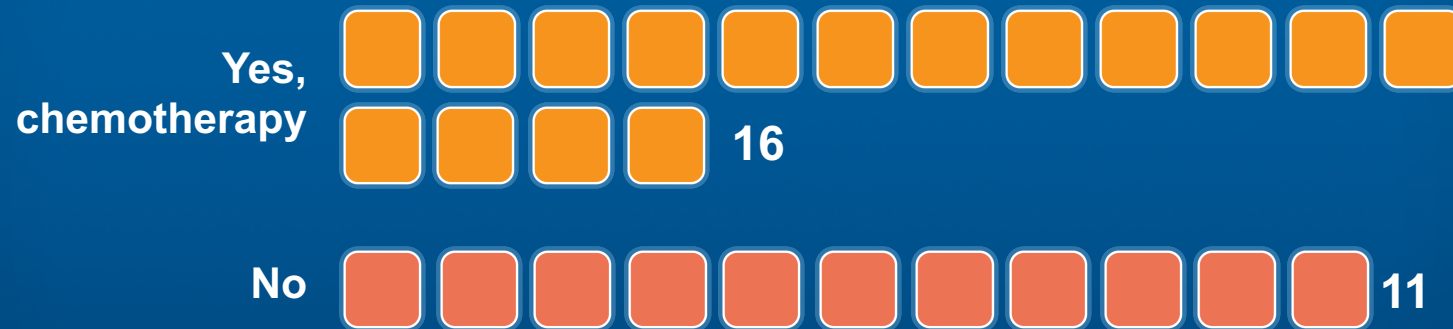
Rarely, if ever  18

A 65-year-old woman has a 3-cm, ER-positive, HER2-negative IDC with a clinically negative axilla. The patient is a candidate for breast-conserving surgery. What would you recommend as the next step in her treatment plan?



N = 29 investigators

The patient in the previous scenario has a 21-gene Recurrence Score[®] assay ordered by the surgeon, which returns with a Recurrence Score of 31 (high). Would you offer neoadjuvant treatment?



A 65-year-old woman has a 3-cm, ER-positive, HER2-negative IDC with a small palpable axillary node that is positive on biopsy. The patient is a candidate for breast-conserving surgery. What would you recommend as the next step in her treatment plan?




N = 28 investigators

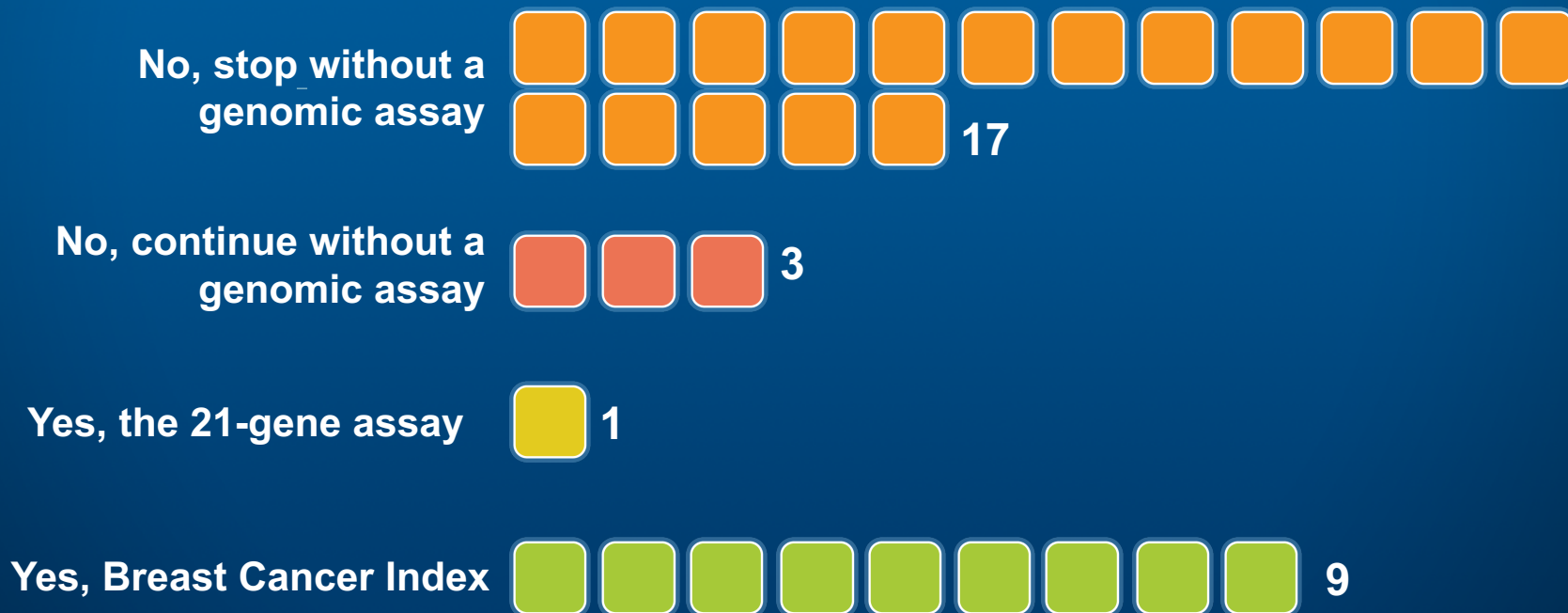
The patient in the previous scenario has a 21-gene Recurrence Score assay ordered by the surgeon, which returns with a Recurrence Score of 5 (low). Would you offer neoadjuvant treatment?

Yes, chemotherapy  2

Yes, endocrine therapy  6

No  20

A 65-year-old woman with a 1.5-cm, node-negative, ER-positive, HER2-negative IDC received adjuvant TC x 4 followed by anastrozole for 5 years. A genomic assay has never been ordered. The patient has tolerated anastrozole well and has normal bone density. Would you likely order a genomic assay to assist in deciding whether to continue the anastrozole?



N = 30 investigators

A 65-year-old woman with a 1.5-cm, ER-positive, HER2-negative IDC with 2 positive nodes received adjuvant TC x 4 followed by anastrozole for 5 years. A genomic assay has never been ordered. The patient has tolerated anastrozole well and has normal bone density. Would you likely order a genomic assay to assist in deciding whether to continue the anastrozole?

No, stop without a genomic assay  2

No, continue without a genomic assay



Yes, Breast Cancer Index



MODULE 3: Selection and Sequence of Therapy for Patients with ER-Positive, HER2-Negative Metastatic Disease

A 65-year-old asymptomatic woman presents with a 4.0-cm, ER-positive, HER2-negative breast cancer with biopsy-proven bone metastases. Which endocrine-based treatment would you most likely recommend?

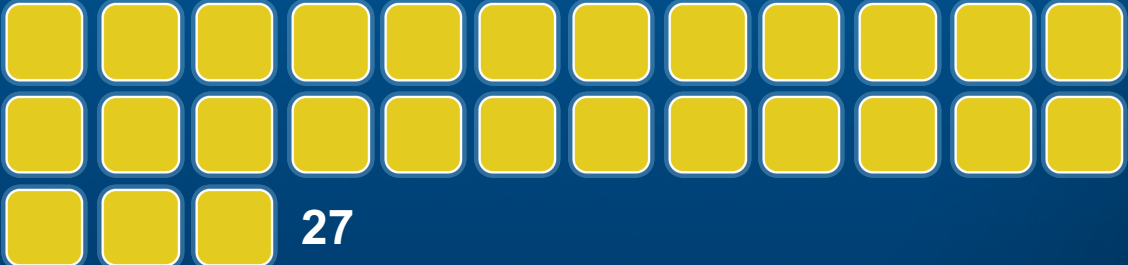


N = 30 investigators

In general, which endocrine-based treatment would you recommend for a postmenopausal woman with ER-positive, HER2-negative breast cancer who develops minimally symptomatic bone and lung metastases 1 year after starting anastrozole?

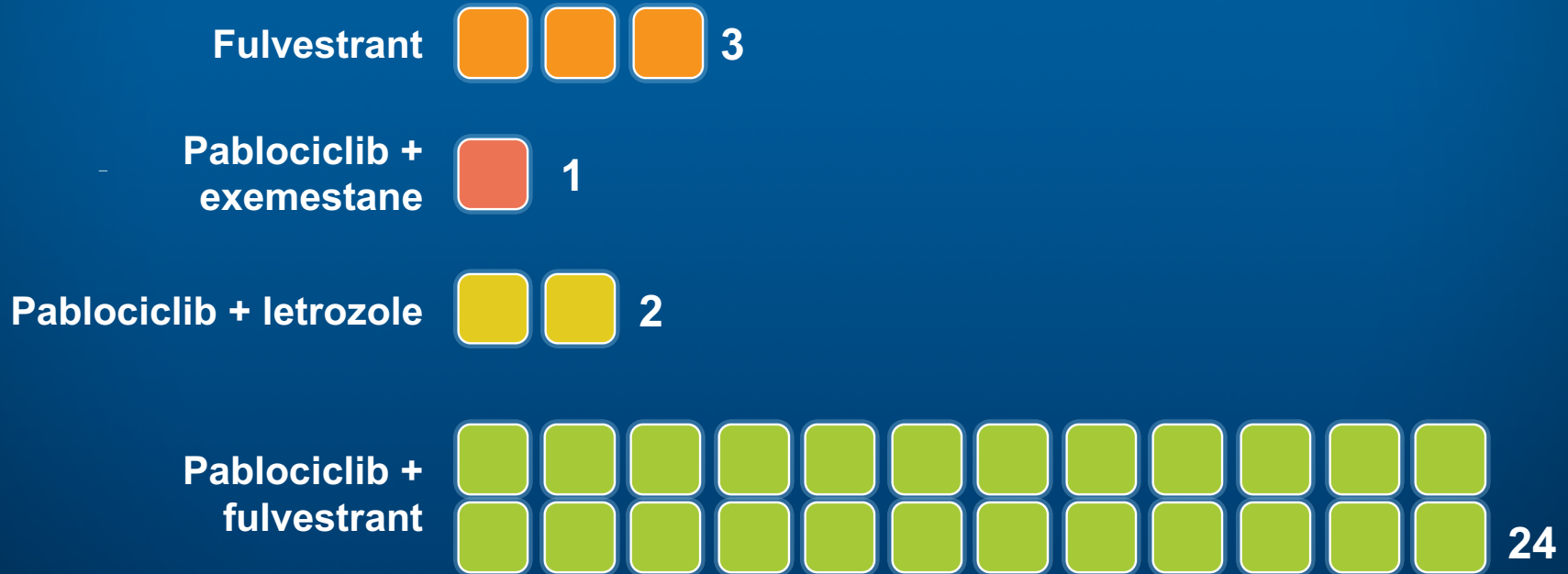
Pablociclib + exemestane  1

Pablociclib + letrozole  2

Pablociclib + fulvestrant  27

N = 30 investigators

In general, which endocrine-based treatment would you recommend for a postmenopausal woman with ER-positive, HER2-negative breast cancer who develops minimally symptomatic bone and lung metastases 4 years after starting anastrozole?



N = 30 investigators

A postmenopausal woman completes 5 years of adjuvant anastrozole for an ER-positive, HER2-negative IDC but develops asymptomatic biopsy-proven bone metastases 2 years later. Which initial endocrine-based therapy would you recommend?



N = 30 investigators

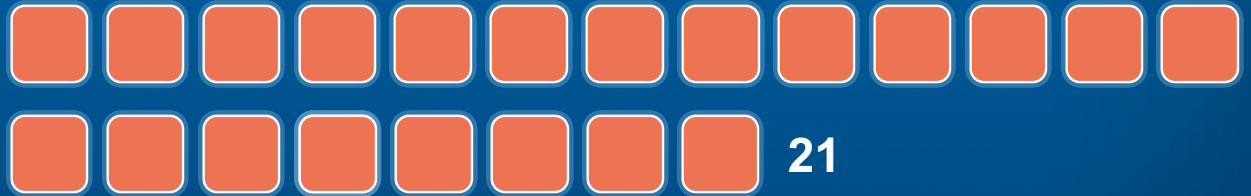
The patient in the previous question receives palbociclib combined with letrozole and responds but 1 year later experiences asymptomatic disease progression. What would be your likely next endocrine-based treatment?

Continue palbociclib and switch endocrine treatment



1

Fulvestrant



21

Exemestane + everolimus



7

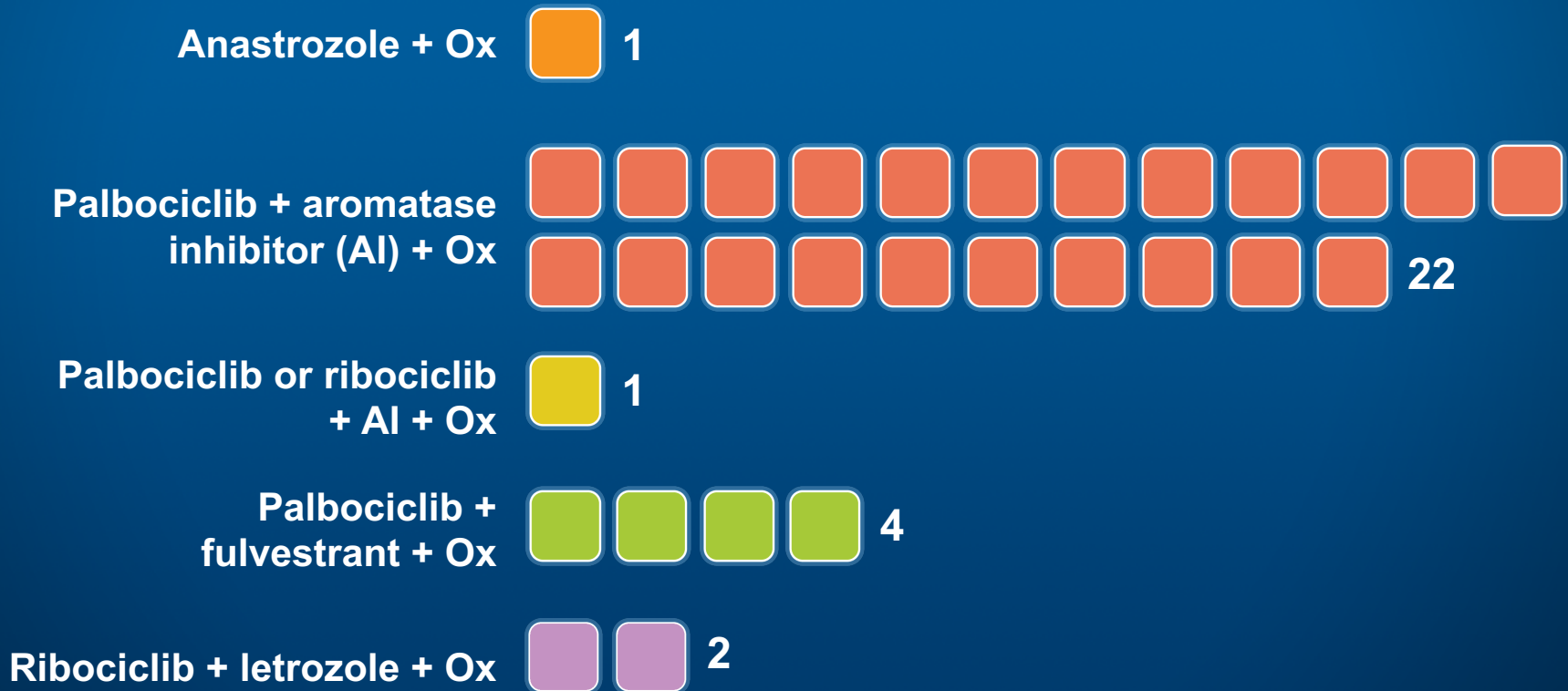
Exemestane



1

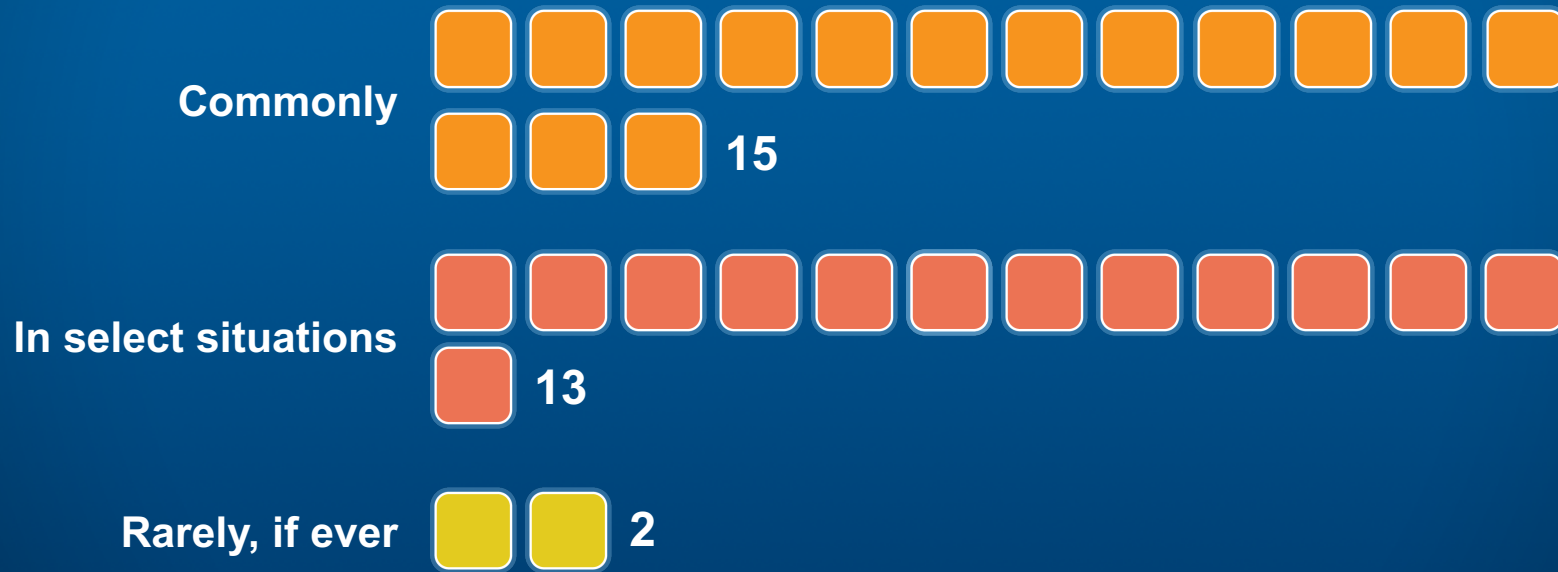
N = 30 investigators

In general, which endocrine-based treatment would you recommend for a premenopausal woman with ER-positive, HER2-negative breast cancer who develops minimally symptomatic bone and lung metastases 1 year after starting tamoxifen (in addition to denosumab or bisphosphonate therapy)?



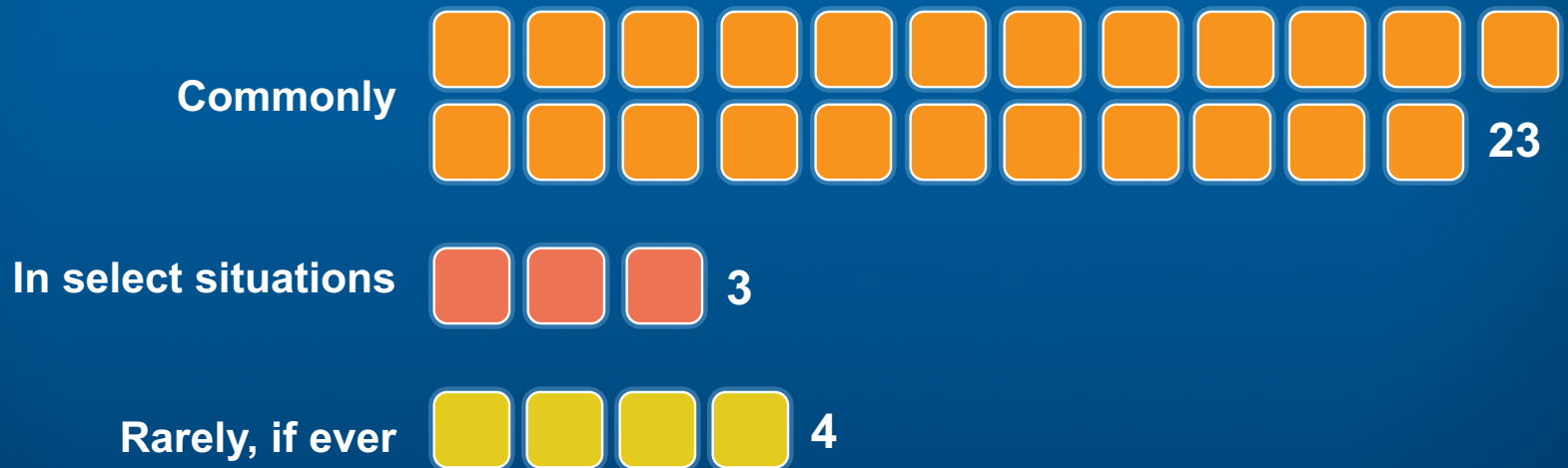
N = 30 investigators

To what extent have you used everolimus in combination with exemestane for patients with metastatic ER-positive, HER2-negative breast cancer whose disease has progressed on a prior AI?



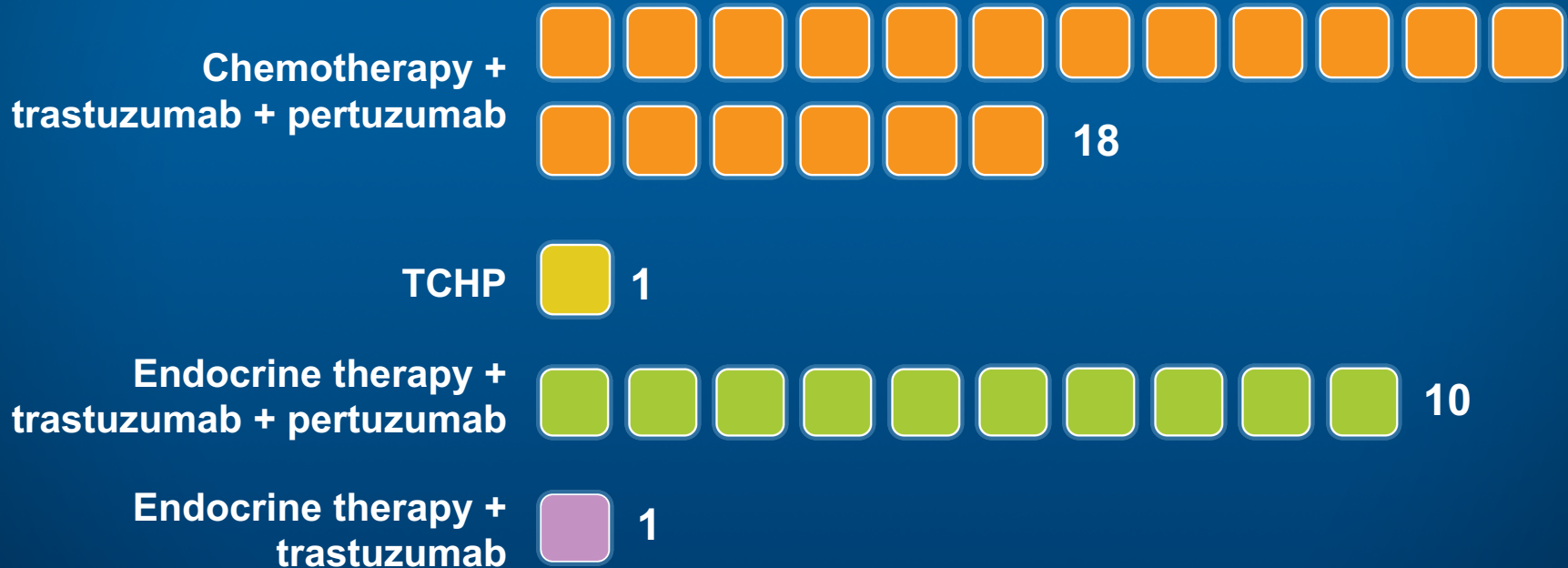
N = 30 investigators

Do you incorporate prophylactic use of dexamethasone mouth rinse to minimize the incidence of stomatitis for patients receiving everolimus and exemestane?



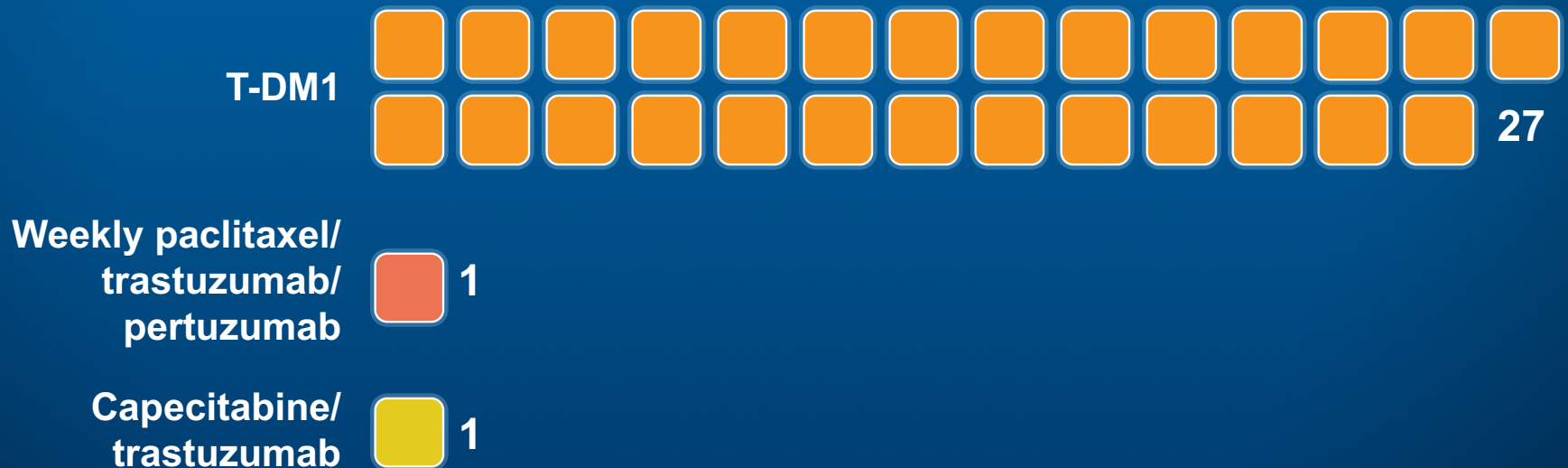
MODULE 4: Long-Term Management of HER2-Positive mBC

A 65-year-old woman presents with de novo ER/PR-positive, HER2-positive breast cancer and asymptomatic lung metastases. What would be your likely initial systemic therapy?



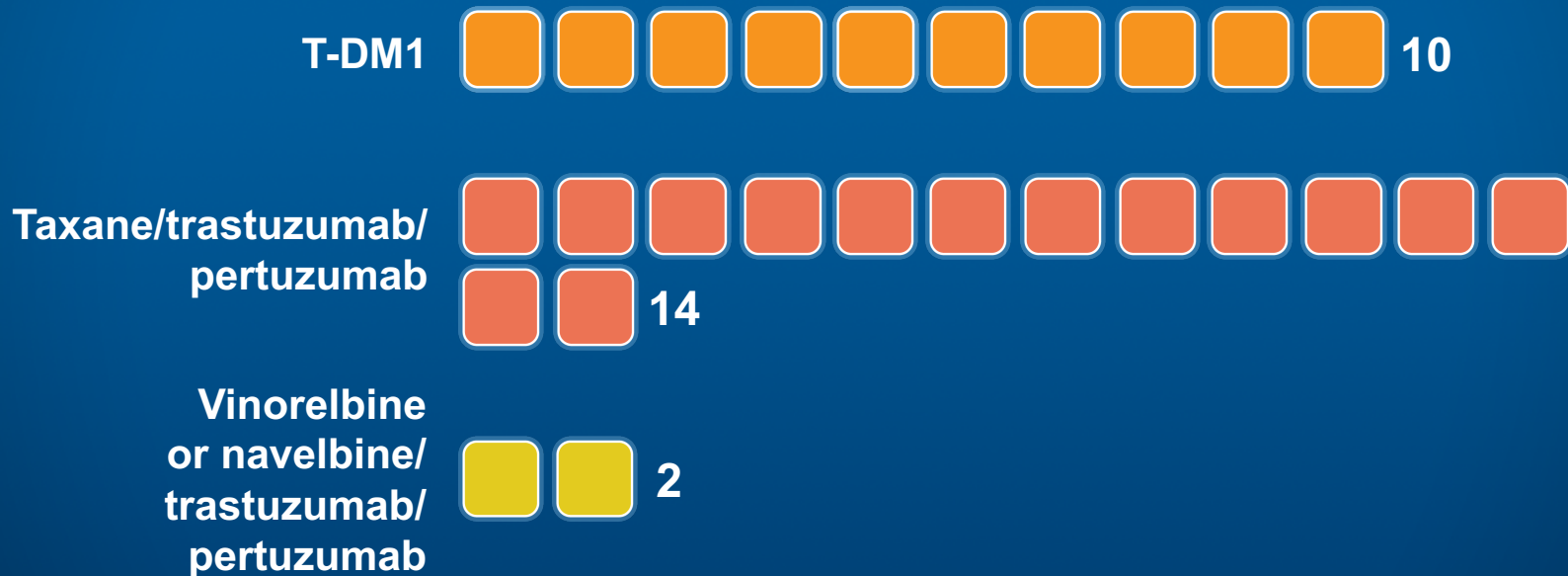
N = 29 investigators

A patient with a 6-cm, ER-negative, HER2-positive tumor and palpable nodes receives TCH/pertuzumab with good response but residual disease at surgery. The patient completes 1 year of trastuzumab/pertuzumab and 4 months later develops minimally symptomatic bone-only metastases. Which therapy would you most likely recommend?

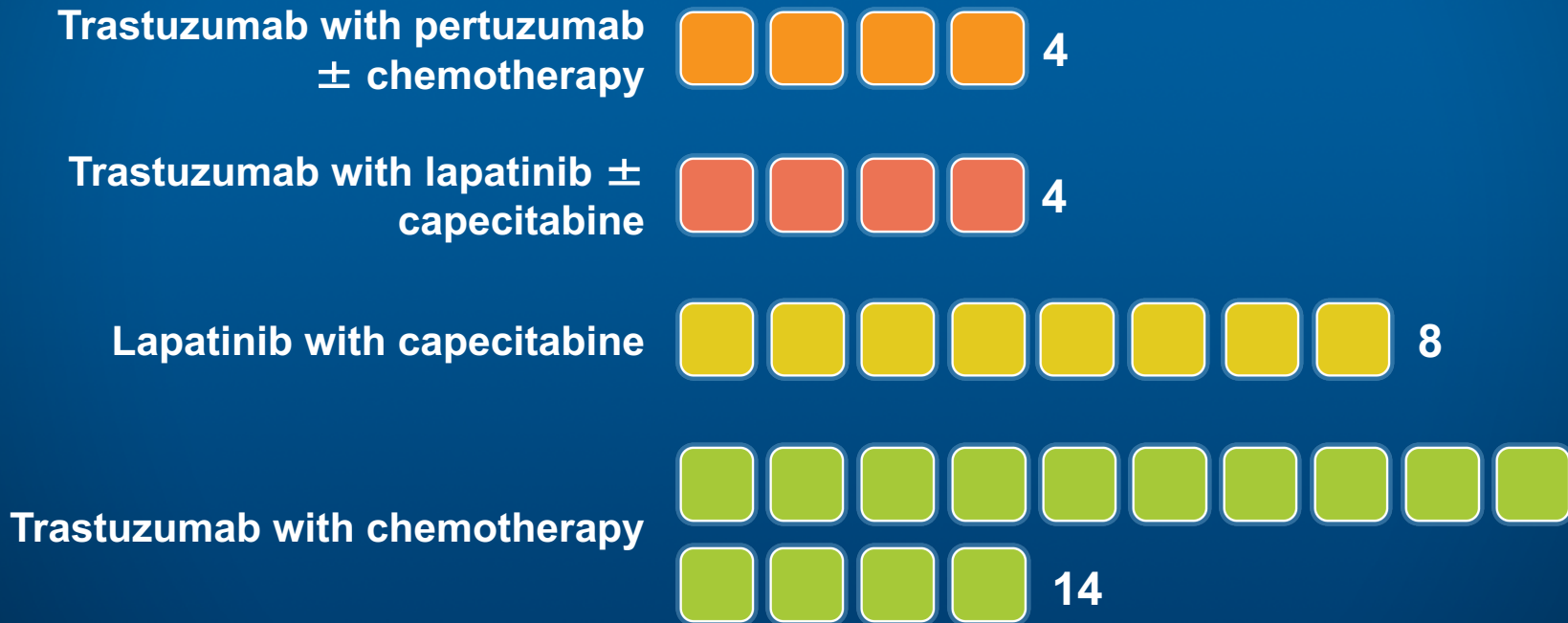


N = 29 investigators

What if the patient above developed a relapse 18 months after completing trastuzumab/pertuzumab?

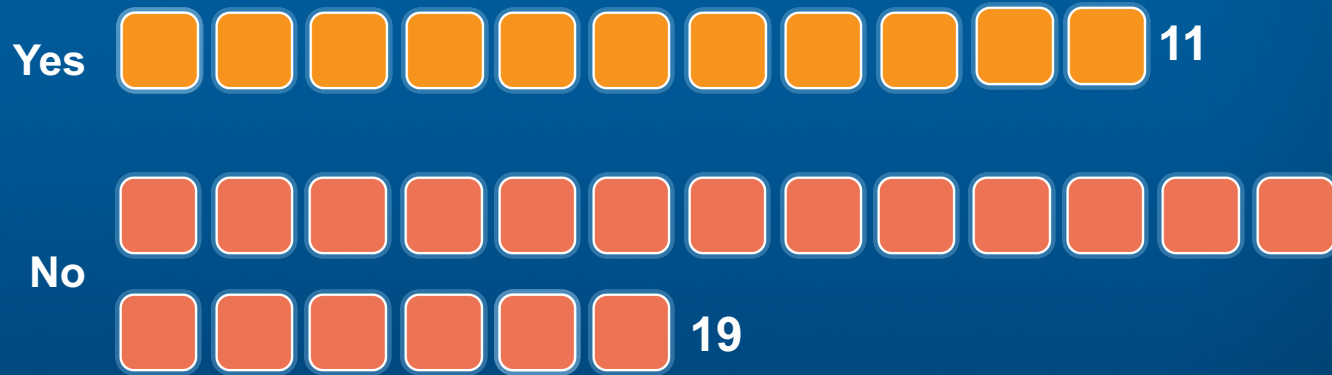


What's your usual third-line therapy for a patient with metastatic ER-negative/HER2-positive disease whose disease has progressed on taxane/trastuzumab/pertuzumab and T-DM1?



N = 30 investigators

Have you administered CDK4/6 inhibitors in combination with anti-HER2 therapy to patients with HER2-positive breast cancer off protocol?



N = 30 investigators

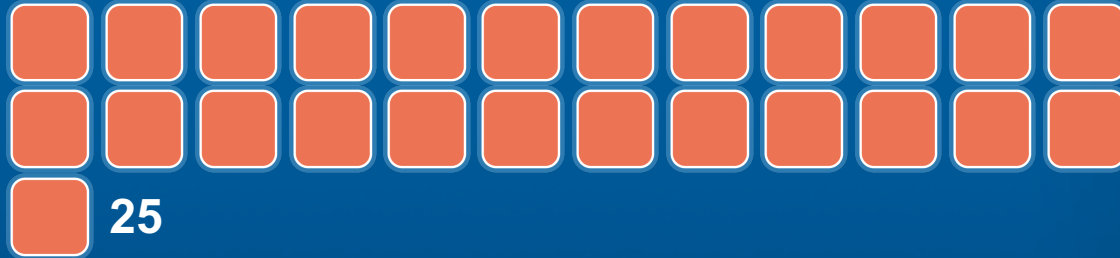
MODULE 5: Potential Role of PARP Inhibition in the Management of BC

Which of the following PARP inhibitors have you used on or off protocol for the treatment of breast cancer? (Please select all that apply)

I have not used a PARP inhibitor



Olaparib



Veliparib



Rucaparib



Niraparib

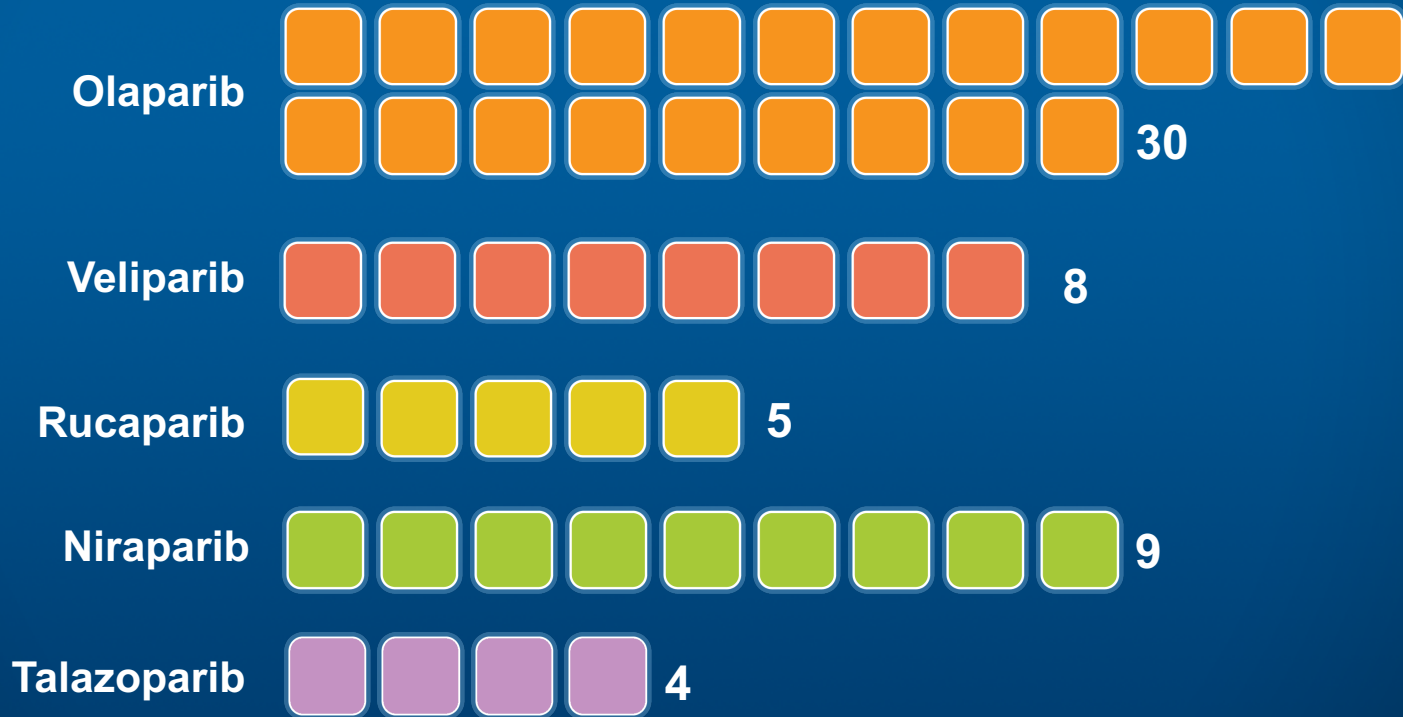


Talazoparib



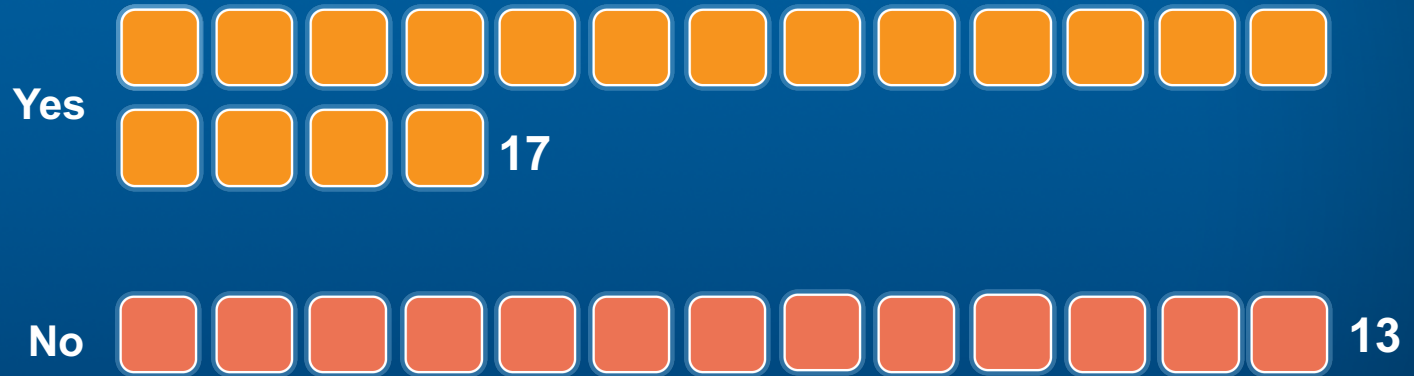
N = 30 investigators

Which of the following PARP inhibitors would you use on or off protocol for the treatment of breast cancer? (Please select all that apply)



N = 30 investigators

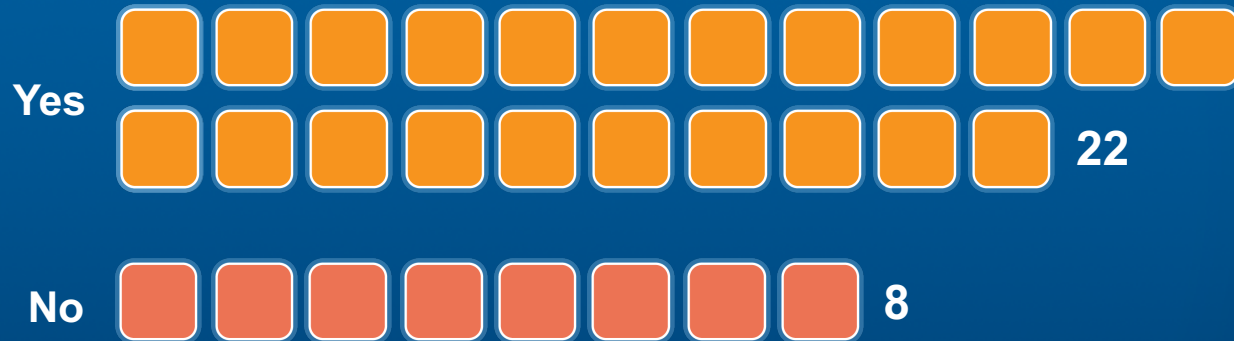
Are there germline mutations beyond BRCA1/2 for which you would consider administering a PARP inhibitor to a patient with breast cancer?



N = 30 investigators

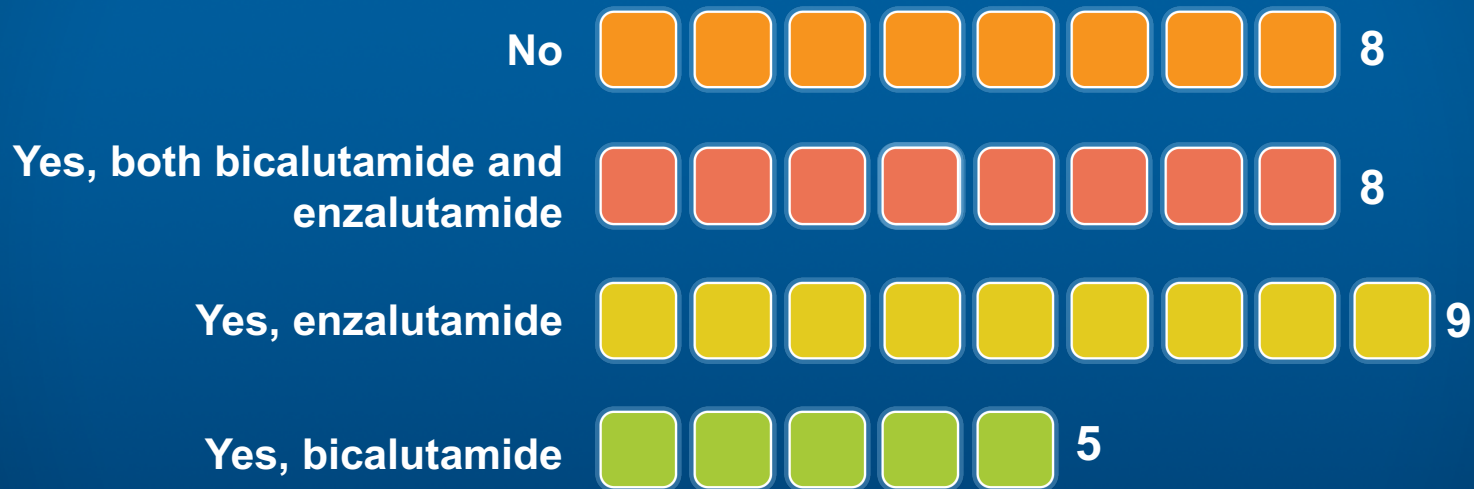
MODULE 6: Other Novel Agents and Strategies Under Active Investigation in BC

Are there situations in which you are carrying out androgen receptor testing for your patients with metastatic breast cancer?



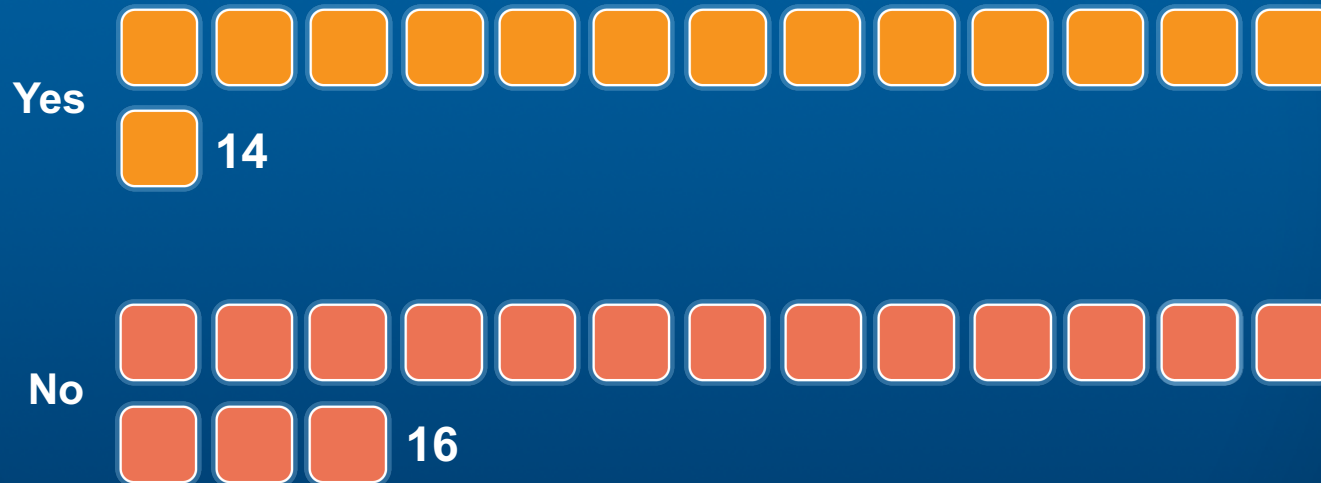
N = 30 investigators

Have you used an antiandrogen for a patient with metastatic breast cancer on or off protocol?



N = 30 investigators

Are there situations currently in which you would recommend treatment with an anti-PD-1/anti-PD-L1 antibody to patients with breast cancer outside of a clinical trial setting?



N = 30 investigators

Does the presence of an estrogen receptor mutation in the tumor in any way alter your clinical decision-making?

No  3

I am not actively assessing estrogen receptor mutations

 13

Yes  14