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Bispecific Antibody Horizons: Dosing Strategies and Meeting Updates in Myeloma Care

Faculty



Saad Usmani, MD, MBA— Program Chair Chief of Myeloma Service Memorial Sloan Kettering Cancer Center New York, New York



Joshua Richter, MD
Associate Professor of Medicine
Tisch Cancer Institute/Icahn School of
Medicine at Mount Sinai
Director of Myeloma: Blavatnik Family –
Chelsea Medical Center at Mount Sinai
New York, New York



Ashley Steinberger, APP
Nurse Practitioner
Memorial Sloan Kettering Cancer Center
New York, New York

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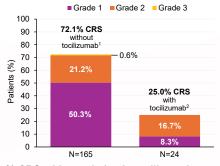




Highlights from ASCO and EHA 2024

Teclistamab

MajesTEC-1 Prophylactic Tocilizumab Cohort: **CRS Incidence and Severity**



Prophylactic tocilizumab cohort (N=24) ²			
Characteristic	No CRS (n=18)	CRS Grade 1 (n=2)	CRS Grade 2 (n=4)
BMPCs, % median (range)	8.0 (0-80)	19 (8–30)	62.5 (30–80)
ISS stage, %			
1	72.2	50	50
II	22.2	50	50
III	5.6	0	0
No. of EMPs, median (range)	0 (0-4)	0 (0)	0 (0–2)

· No disease characteristic associated with CRS, consistent

Small sample size precludes clinically meaningful conclusions

with pivotal cohort

- 25% CRS with prophylactic tocilizumab
 - Grade 1 (n=2), grade 2 (n=4); no grade 3 events
 - All initial events occurred during SUD; 3 recurrent events
 - Median time to onset: 2 days (range, 1-3)
 - Median duration: 2 days (range, 2-4)
 - All events resolved

CRS, cytokine release syndrome; BMPC, bone marrow plasma cell; ISS, International Staging System; EMP, extramedullary plasmacytoma.

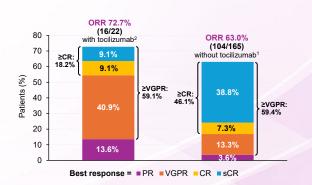
1. Martin TG, et al. Cancer. 2023;129(13):2035-2046; 2. van de Donk NWCJ et al. ASCO 2024. Abstract 7517

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MajesTEC-1 Prophylactic Tocilizumab Cohort: **CRS Incidence and Severity**

Response to teclistamab (22 of 24 patients evaluable)

- · Responses were similar to those seen in the MajesTEC-1 pivotal population¹
 - The lower ≥CR rate in the prophylactic tocilizumab cohort is likely due to limited availability of bone marrow samples to confirm CR and duration of follow-up
 - At 8.1 months median follow-up, no impact on teclistamab efficacy was observed



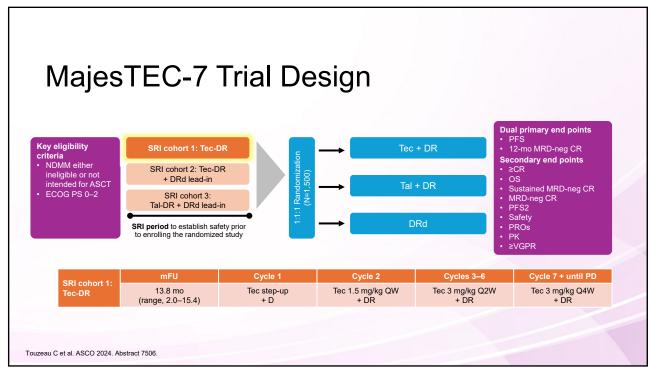
1. Garfall AL et al. ASCO 2024. Abstract 7540: 2. van de Donk NWC I et al. ASCO 2024. Abstract 7517

Real-World Less-Frequent Dosing of Teclistamab

- · Retrospective observational study of RRMM patients who started treatment with teclistamab
- 86 RRMM patients who received ≥1 Tec dose were included in this analysis
- Median prior LOT was 6; 37% patients received a BCMA-directed therapy before Tec
- · Results were reported for overall population and the three subgroups of interest:
 - 1. Early initiators: patients treated within the first 4 months since commercial Tec was first used
 - 2. Recent initiators: patients treated with Tec after March 31, 2023
 - 3. Patients with less-frequent dosing: patients who switched from QW to less-frequent dosing (eg, Q2W)
- In this real-world analysis, patients treated with Tec had multiple high-risk features; despite these disease characteristics, Tec demonstrated comparable ORR to MajesTEC-1
- 94% of patients who switched to less frequent dosing maintained their initial treatment response

Tan CR et al. EHA 2024. Abstract P902

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MajesTEC-7 (Tec-DR) SRI Cohort 1: Safety

At median follow-up of 13.8 months

- 61.5% of patients had CRS, occurring mostly in cycle 1, and all cases resolved
 - Grade 1: 57.7%
 - Grade 2: 3.8%
- One case of ICANS (grade 1) in cycle 1 that resolved

26 patients received tec-DR with median of 15 cycles (range, 2–17); 23/26 (88.5%) remained on treatment

· Median relative dose intensity

Tec: 97.0%Dara: 95.8%

Len: 58.6% (17 patients dose reduced)

Touzeau C et al. ASCO 2024. Abstract 7506.

TEAE, n (%)	SRI cohort 1 (N=26)		
	Any grade	Grade 3/4	
Any TEAE	100.0	92.3	
Hematologic AEs, n (%)	84.6	65.4	
Neutropenia	57.7	57.7	
Anemia	30.8	3.8	
Thrombocytopenia	15.4	15.4	
Febrile neutropenia	11.5	11.5	
Eosinophilia	11.5	0	
Nonhematologic AEs, n (%)			
Diarrhea	69.2	3.8	
CRS	61.5	0	
Cough	53.8	0	
Dysgeusia	38.5	N/A	
Constipation	34.6	0	
Injection site erythema	34.6	0	
Nausea	30.8	0	
COVID-19	30.8	11.5	
Muscle spasms	30.8	0	
Bronchitis	26.9	0	
URTI	26.9	3.8	

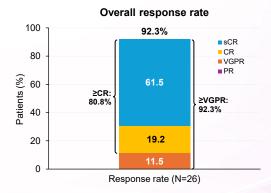
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MajesTEC-7 (Tec-DR) SRI Cohort 1: Infections

TEAE, n (%)	SRI cohort 1 (N=26)	
	Any grade	Grade 3/4
Infections*	100	30.8
COVID-19	30.8	11.5
Bronchitis	26.9	0
URTI	26.9	3.8
Rhinitis	23.1	0
Pneumonia	11.5	3.8
Influenza pneumonia	3.8	3.8
Pneumonia pneumococcal	3.8	3.8
Pneumonia viral	3.8	3.8
Staphylococcal sepsis	3.8	3.8

*All-grade infections in ≥20% or grade 3/4 infections in ≥1 patient. Touzeau C et al. ASCO 2024. Abstract 7506.

MajesTEC-7 (Tec-DR) SRI Cohort 1: Efficacy



- 92.3% ORR (80.8% ≥CR); all responses were ≥VGPR
- No disease progressions

CR, complete response; DR, daratumumab and lenalidomide; ORR, overall response rate; PR, partial response; sCR, stringent complete response; SRI, safety run-in; tec, teclistamab; VGRP, very good partial response.

Touzeau C et al. ASCO 2024. Abstract 7506.

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Long-Term Survival After Elranatamab Monotherapy in RRMM Patients: MagnetisMM-3

- 123 BCMA-naïve RRMM patients were treated with elranatamab
 - 32% had extramedullary disease; 15% had high-risk disease
- Elranatamab continued to demonstrate deep and durable responses in heavily pretreated (median 5 prior LOTs; 96.7%, TCR), BCMA-naïve RRMM patients
 - MRD negativity rate was 90.3% in evaluable patients with ≥CR
 - Median PFS was 17.2 months
 - Median OS was 24.6 months
- No new safety signals were observed. Although longer follow-up is needed, few SPMs were seen (<5%; all squamous cell carcinomas)
 - No hematologic SPMs were reported

SPM, secondary primary malignancy; TCR, triple-class refractory Mohty M et al. EHA 2024. Abstract P932.

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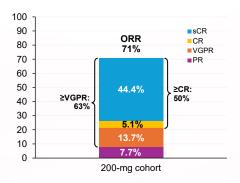




Highlights from ASCO and EHA 2024

Linvoseltamab and ABBV-383

LINKER-MM1: Linvoseltamab Response Rates



- Median duration of follow-up for the 117 patients was 14.3 months*
- ORR was 71%, with 50% of patients achieving CR or better
 - Median DOR was 29.4 months;
 estimated DOR at 12 months:
 81%
 - Median PFS was NR; estimated PFS at 12 months: 70%
 - Median OS was 31.4 months;
 estimated OS at 12 months; 75%

*phase 1: 12 patients; phase 2: 105 patients

CI, confidence interval; CR, complete response; CRS, cytokine release syndrome; DOR, duration of response; NE, not evaluable; NR, not reached; ORR, overall response rate; PFS, progression-free survival; TEAE, treatment-emergent adverse event.

Lentzsch S et al. EHA 2024. Abstract S212.

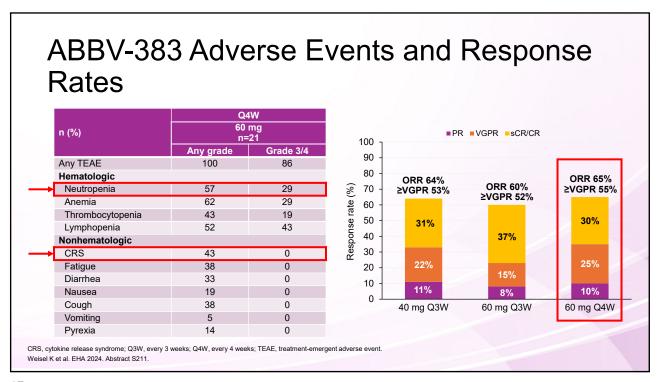
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LINKER-MM1: Linvoseltamab Adverse Events

TEAEs, n (%)	Any grade	Grade 3-4
Number of patients with TEAE	100.0	73.5
Hematologic TEAEs		
Neutropenia*	42.7	41.9
Anemia*	38.5	30.8
Non-hematologic TEAEs		
CRS	46.2	0.9
Diarrhea	37.6	1.7
Cough	36.8	0
Fatigue	33.3	0
Arthralgia	29.9	0
Hypokalemia*	24.8	3.4
Headache*	23.1	0.9
Nausea	23.1	0
COVID-19*	22.2	9.4
Back pain	20.5	2.6
Dyspnea	20.5	0.9
*Composite terms.		

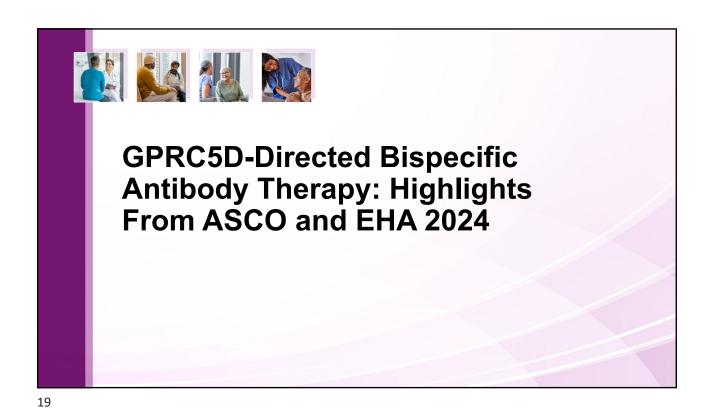
- Median exposure to treatment (200 mg) was 53.0 weeks (range 1.0–167.0)
- The most common TEAEs were CRS, neutropenia, and anemia
- ICANS occurred in 9 patients (7.7%; 2.6% for each grade 1, 2, and 3); all events were concurrent with CRS or IRRs
- TEAEs that led to death within 30 days of the last treatment dose were reported in 6 patients (5.1%), 5 due to infection, and 1 due to renal failure

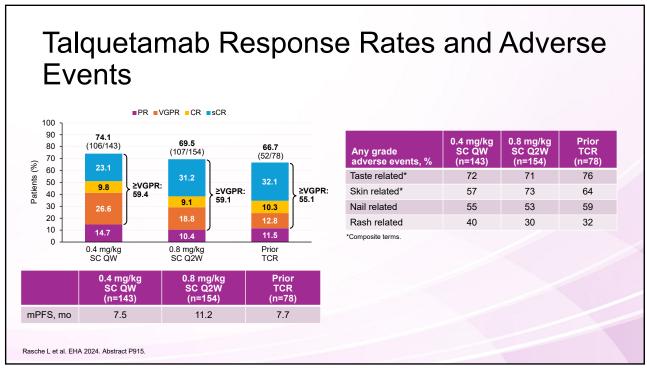
TEAE, treatment-emergent adverse event. Lentzsch S et al. EHA 2024. Abstract S212.



Key Points

- Prophylactic tocilizumab may help mitigate frequency of CRS with teclistamab and elranatamab
- Real-world data from less-frequent dosing of teclistamab showed similar ORRs to clinical trials
- Combination of bispecific with standard myeloma treatment looks promising
- Early-phase trials of investigational BCMA-directed antibodies show promising results
- Phase 3 trials of emerging bispecifics are ongoing or planned





GPRC5D-Associated Adverse Events

Affected area	Symptoms and effects	Management
Oral	 Taste changes Difficulty swallowing Dry mouth	 Can lead to weight loss Most successfully managed with dose modification Supportive measures may be used (eg, NaCl mouth rinse, artificial saliva spray, diet modification)
Skin	RashSkin peeling	Relatively benign, not painful, self-limiting, and manageable with emollients
Nails	Nail thinning and loss	Mostly aesthetic but takes time to resolve

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Highlights from ASCO and EHA 2024

Infectious Complications with Bispecific Antibodies

Infectious Complications With BCMA- and GPRC5D-Directed Bispecifics or CAR T-cell Therapy

- In this retrospective analysis, Mersi and colleagues evaluated infectious complications of any grade in 137 patients treated with either BCMA-, GPRC5D-directed bsAbs or CAR T-cell therapy
- · Of these
 - 58 patients received CAR T
 - 47 received BCMA-targeted bsAbs
 - 32 received GPRC5D-targeted bsAbs
- Most patients experienced infectious complications while being treated with these novel immunotherapies
 - The rates were 76% for CAR-T therapy, 85% for BCMA- and 59% for GPRC5D-targeting bsAbs
 - Across all groups, viral infections of the respiratory tract were predominant
 - With BCMA bsAbs, on average, infectious complications occurred every 5th day
 - With GPRC5D bsAbs, on average, infectious complications occurred every 11th day

Mersi J et al. EHA 2024. Abstract P948

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Highlights from ASCO and EHA 2024

Cevostamab

Cevostamab Adverse Event Summary

Key inclusion criteria

- RRMM
- Triple-class refractory
- Prior BCMA-targeted ADC or CAR T-cell therapy
- Prior BCMA-targeted bispecific antibodies not permitted
- ECOG PS 0–1

%, unless stated	Prior ADC (n=10)	Prior CAR-T (n=11)	All (N=21)	
Grade 3-4 hematological	Grade 3–4 hematological AEs			
Anemia	40	18	29	
Neutropenia	30	55	43	
Thrombocytopenia	20	18	19	
Any CRS	90	55	71	
Gr 1	40	9	24	
Gr 2	50	46	48	
Any ICANS	20	9	14	
Gr 1	10	9	10	
Gr 4	10	0	5	

Infections:

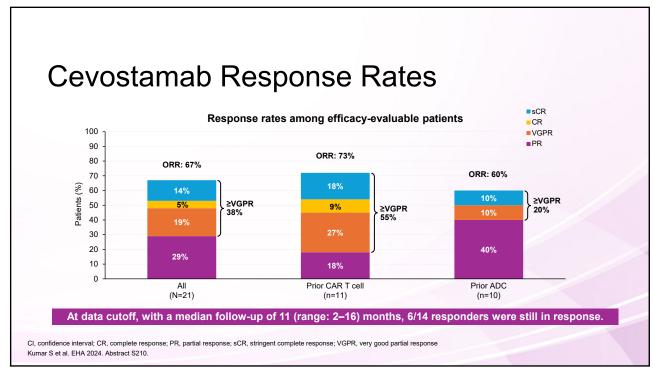
- Any AE: 12 patients (57%)
- Grade 3: 5 patients (24%)
- · No Grade 4+
- Mainly respiratory tract infections

No rare pathogens or Ols

- Viral: 31%, including 4 COVID cases
- · Bacterial: 35%
- Unknown pathogen: 35%

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Kumar S et al. EHA 2024. Abstract S210.



Key Points

- · Long-term efficacy and safety of talquetamab confirmed
- Infectious complications with bispecific antibodies are frequent but typically low grade
 - Infections more common with BCMA-directed bispecific antibody therapy
- Early-phase trial of cevostamab, an investigational FcRH5-directed bispecific antibody, shows promising results

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Optimizing the Use of BCMA-Directed Bispecific Antibody Therapy

- 72-yr-old woman with high-risk MM; PS of 2 at most recent progression
 - 1q21 amplification (2 extra copies), del(17q)
- Treatment history
 - D-Rd, no ASCT; R maintenance: best response was VGPR with DOR of 1.5 year
 - XVd DOR 1 yr
 - D-Pd: best response was PR with DOR of 9 months
 - KCd: best response was PR with DOR of 3 months and aggressive relapse (CAR T has not been planned)
- Consider BCMA-directed bispecific

Elranatamab Dosing Schedule

Dosing schedule	Day Do		se
Step-up dosing schedule*	1	Step-up dose 1	12 mg
(48-hour hospitalization after first step-up dose; 24-hour after	4	Step-up dose 2	32 mg
second step-up dose)	8	First treatment dose	76 mg
Weekly dosing schedule	1 week after first treatment dose and weekly thereafter through week 24	Subsequent treatment doses	76 mg
Biweekly dosing schedule	Week 25 and every 2 weeks thereafter	Subsequent treatment doses	76 mg

^{*}A minimum of 2 days should be maintained between step-up doses.

ELREXFIO (elranatamab) prescribing information. Pfizer. Revised 8/2023

Teclistamab Dosing Schedule

Dosing schedule	Day	Do	se
Step-up dosing schedule	1	Step-up dose 1	0.06 mg/kg
(48-hour hospitalization after	4	Step-up dose 2	0.3 mg/kg
each step-up dose)	7	First treatment dose	1.5 mg/kg
Weekly dosing schedule	1 week after first treatment dose and weekly thereafter	Subsequent treatment doses	1.5 mg/kg once weekly
Biweekly dosing schedule	For patients with RRMM who have achieved and maintained ≥CR for a minimum of 6 months: Reduce dosing to 1.5 mg/kg every 2 weeks		6 months:

Step-up doses may be administered between 2 to 4 days after the previous dose and may be given up to 7 days after the previous dose to allow for resolution of any adverse reactions.

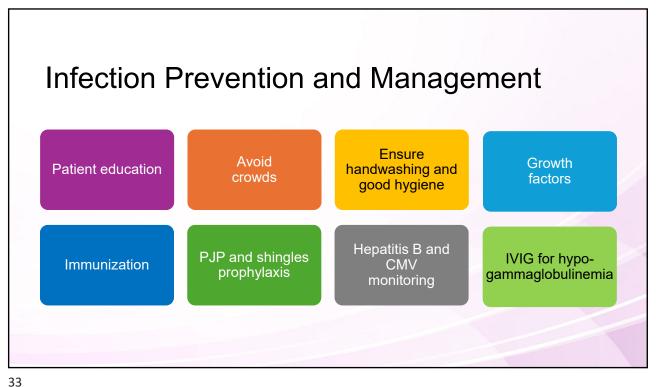
TECVAYLI (teclistamab) prescribing information. Janssen Biotech. Revised 5/2024

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Safety Experience with Approved BCMA Bispecifics

Elranatamab AEs of Interest ^{1,2}	Teclistamab AEs of Interest ³
Infections All grade: 70% Grade 3/4: 47%	Infections All grade: 78% Grade 3/4: 52%
CRS All grade: 70% No grade 3/4 CRS 90.6% of CRS events occurred with the step-up doses	CRS All grade: 72% Only 0.6% of CRS was Grade 3 No grade 4/5 CRS
ICANS 4.9%	ICANS 3%

1. Lesokhin A et al. Nat Med. 2023;29:2259-2267; 2. Tomasson M et al. ASH 2023. Abstract 3385; 3. van de Donk N et al. ASCO 2023. Abstract.8011.



Key Points

- Bispecific antibodies as monotherapy are efficacious in RRMM
 - Early, deep, and durable responses for an off-the-shelf therapy
- Overall management strategy may help mitigate CRS and ICANS
 - Events are mostly low grade
- Vigilant monitoring, prophylaxis, and treatment can help mitigate risk of infections
 - Prophylactic antibiotics and antivirals are a must during the entire time of treatment
 - IVIG replacement is strongly encouraged for all patients



Optimizing the Use of GPRC5D-Directed Bispecific Antibody Therapy

- 74-yr-old man with MM; PS of 1 at most recent progression
- Treatment history:
 - VRd, ASCT; R maintenance: best response was VGPR with DOR of 3.5 years
 - D-Pd: best response was VGPR with DOR of 18 months
 - KCd: best response was PR with DOR of 12 months
 - Xd: best response was PR with DOR of 4 months
 - BCMA-directed CAR-T: progression after 1 year
- Consider GPCR5D-directed bispecific antibody therapy

GPRC5D-Associated Adverse Events

AEs of interest ^{1,2}	Overall (all- grade)	Comments
Skin-related events	~70%	Monitor for skin toxicity, including rash progression, for early intervention and treat appropriately
Nail-related events	~30-60%	Monitor for nail-bed disorder, discoloration, disorders, dystrophy, hypertrophy, ridging, onycholysis, and onychomadesis
Dysgeusia	~60%	Monitor for oral toxicity and weight loss; withhold or discontinue based on severity
CRS	~80%	One CRS event grade ≥3 in MonumenTAL-1
Infections	~30-50%	No CMV reactivation in MonumenTAL-1

Other considerations²

- Monitor CBC
- · Monitor liver enzymes and bilirubin at baseline and during treatment as clinically indicated

1. Chari A et al. N Engl J Med. 2022;387:2232.; 2. TALVEY (talquetamab) prescribing information. Janssen Biotech. Revised 8/2023.

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- Starts ~C2, lasts for months
- Avoid frequent/long durations of water immersion
- Frequent application of emollients (Vaseline, Aquaphor)
- · Vitamin E oil
- File to smooth the edges and corners of the nail plates
- Clear nail polish or nail hardeners
- Biotin supplements may be helpful

Images courtesy of Dr. Ajai Chari.

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Management of Dysgeusia and Xerostomia

Dysgeusia management

- Dose modifications, including reductions, delays, or skips were the most effective management strategy for dysgeusia
- Nutritional monitoring, such as for iron deficiencies, should be undertaken with appropriate supplementation
- High-caloric shakes should be considered to ensure adequate nutritional intake and to prevent weight loss due to dysgeusia or other oral events

Xerostomia management

- Dry mouth can be managed with increased hydration (sipping water throughout the day) and intraoral topical agents, such as topical saliva sprays or sugar-free chewing gum, to stimulate saliva flow
- Sodium lauryl sulfate–free toothpastes may be better tolerated than other toothpastes

Early referral to a dietician or nutritionist at the onset of therapy should be encouraged to provide guidance on maintaining a balanced diet and weight, irrespective of the presence of oral events.

Chari A et al. Clin Lymph Myeloma Leuk. 2024. Epub ahead of print

	Week	dy		
Dosing schedule	Day	Dose	e ^a	Additional Dosing Principles
	1	Step-up dose 1	0.01 mg/kg	^a Based on actual body weight.
Step-up dosing schedule	4 ^b	Step-up dose 2	0.06 mg/kg	^b Dose may be administered between
scriedule	7 ^b	First treatment dose	0.4 mg/kg	2-4 days after the previous dose and may be given up to 7 days after
Weekly dosing schedule	1 week after first treatment dose and weekly thereafter ^c	Subsequent treatment doses	0.4 mg/kg once weekly	the previous dose to allow for resolution of adverse reactions.
	Biweekly (ever	rv 2 weeks)		^c Maintain a minimum of 6 days between weekly doses.
Dosing schedule	Day	Dose	e ^a	^d Dose may be administered between
	1	Step-up dose 1	0.01 mg/kg	2-7 days after step-up dose 3.
Step-up dosing	4 ^b	Step-up dose 2	0.06 mg/kg	^e Maintain a minimum of 12 days
schedule	7 ^b	Step-up dose 3	0.4 mg/kg	between biweekly doses.
	10 ^d	First treatment dose	0.8 mg/kg	
Biweekly dosing schedule	Biweekly after first treatment dose and	Subsequent treatment doses	0.8 mg/kg biweekly	

Key Take-Home Points

- Important to educate patients to be their own advocates and know what to look for and how to best reach the health care team
- Prepare patients for possibility of off-tumor, on-target effects of talquetamab
 - Patients who know these are common are usually able to cope much better

