

Supplementary materials for the ISPOR poster
CO95 titled: Growing Acceptance of Minimal
Residual Disease (MRD) as a Primary Endpoint in
Multiple Myeloma (MM) Clinical Trials

Data from ClinicalTrials.gov was obtained between
10th January 2024 – 8th April 2024

Table S.1. Number of multiple myeloma trials registered on ClinicalTrials.gov

Time period for study start date	01/01/2014-31/12/2014	01/01/2015-31/12/2015	01/01/2016-31/12/2016	01/01/2017-31/12/2017	01/01/2018-31/12/2018	01/01/2019-31/12/2019	01/01/2020-31/12/2020	01/01/2021-31/12/2021	01/01/2022-31/12/2022	01/01/2023-31/12/2023
All MM trials with a start date in time period	96	111	102	111	100	114	110	170	163	153
Number of MM trials that measure MRD as an outcome	10	11	9	21	23	29	25	36	49	47
Proportion of MM trials with MRD as an outcome (%)	10.4	9.9	8.8	18.9	23.0	25.4	22.7	21.2	30.1	30.7

Table S.2. Number of multiple myeloma trials registered on ClinicalTrials.gov that assess MRD as different outcomes

Time period for study start date	01/01/2014-31/12/2014	01/01/2015-31/12/2015	01/01/2016-31/12/2016	01/01/2017-31/12/2017	01/01/2018-31/12/2018	01/01/2019-31/12/2019	01/01/2020-31/12/2020	01/01/2021-31/12/2021	01/01/2022-31/12/2022	01/01/2023-31/12/2023
Number of MM trials that study MRD as an endpoint	10	11	9	21	23	29	25	36	49	47
Number of MM trials with MRD as primary endpoint	0	2	0	2	2	0	1	5	5	7
Number of MM trials with MRD as secondary endpoint	8	8	7	14	15	20	16	20	38	27
Number of MM trials with MRD as tertiary endpoint	1	1	0	3	0	2	1	1	0	1
Number of MM trials with MRD as primary and secondary endpoint	0	0	0	1	4	7	5	8	3	11
Number of MM trials with MRD as primary, secondary, and tertiary endpoint	0	0	0	0	1	0	1	0	0	0
Number of MM trials with MRD as secondary and tertiary endpoint	0	0	0	0	0	0	0	1	1	0
Number of trials that do not study MRD in MM patients - excluded	1	0	2	1	1	0	1	1	2	1

Table S.3. Multiple myeloma clinical trials that measure MRD as a primary endpoint

Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
MIDAS (NCT04934475)	https://clinicaltrials.gov/study/NCT04934475?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&rank=1	08/12/2021	France	TE NDMM	6, 12, 24, 36 months	NGS	10 [^] (-5) and 10 [^] (-6)	NA	NA
TAURUS (NCT06189833)	https://clinicaltrials.gov/study/NCT06189833?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&rank=2	23/11/2023	Austria Germany Greece Italy Netherlands	TE NDMM	Up to 12 months	NGS and MS	NR	NA	NA
NIRVANA (NCT05625971)	https://clinicaltrials.gov/study/NCT05625971?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&rank=3	14/09/2022	USA	≤2LOT MM	6 months	NGS and WB-DWI	NR	NA	NA
M4 (NCT03421132)	https://clinicaltrials.gov/study/NCT03421132?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&rank=5	20/02/2018	Canada	TE NDMM	100 days post-treatment, 12 months post-maintenance	MFC and NGS	NR	NA	NA
MASTER (NCT03224507)	https://clinicaltrials.gov/study/NCT03224507?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&rank=6	14/03/2018	USA	TE NDMM	up to 15 months	NGS	NR	https://pubmed.ncbi.nlm.nih.gov/34898239/ https://pubmed.ncbi.nlm.nih.gov/37776872/	NR
IsKia (NCT04483739)	https://clinicaltrials.gov/study/NCT04483739?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&rank=7	25/09/2020	Czechia Germany Greece Italy Netherlands Norway Spain	TE NDMM	At the end of consolidation (average 12 months)	NGS	10 [^] (-5)	NA	NA
NCT06158269	https://clinicaltrials.gov/study/NCT06158269?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&rank=8	12/2023	China	TIE NDMM	Estimated 3 years	NGS	NR	NA	NA
NCT04751877	https://clinicaltrials.gov/study/NCT04751877?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=1&rank=9	17/07/2021	France	TIE NDMM	18 months	NR	10 [^] (-5)	NA	NA

Table S.3. Multiple myeloma clinical trials that measure MRD as a primary endpoint

Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
NCT04140162	https://clinicaltrials.gov/study/NCT04140162?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=1&rank=10	05/10/2020	USA	NDMM (TE or TIE)	36 weeks (at post-consolidation therapy)	NR	NR	NA	NA
NCT05271630	https://clinicaltrials.gov/study/NCT05271630?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=11	20/04/2022	USA	TE NDMM	1 year post-transplant	NGS	NR	NA	NA
MASTER-2 (NCT05231629)	https://clinicaltrials.gov/study/NCT05231629?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=12	13/12/2023	USA	TE NDMM	end of induction (6 months), before and after maintenance (18 months)	NGS	10 [^] (-5)	NA	NA
ADVANCE (NCT04268498)	https://clinicaltrials.gov/study/NCT04268498?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=13	11/02/2020	USA	TE NDMM	Up to 32 weeks	NR	Up to 10 [^] (-5)	NA	NA
ISABEL (NCT04965155)	https://clinicaltrials.gov/study/NCT04965155?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=14	21/03/2021	Italy	TE RRMM	Within 12 months post-transplant	NGF	10 [^] (-5)	NA	NA
REVIVE (NCT06100237)	https://clinicaltrials.gov/study/NCT06100237?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=15	04/12/2023	USA	SMM	12 months (completion of 12 cycles)	FC	10 [^] (-5)	NA	NA

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Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
MRD-Confirm (NCT05203003)	https://clinicaltrials.gov/study/NCT05203003?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=16	22/04/2022	France	RRMM	2 years (+/- 3 months) post-randomisation, and 3 and 4 years post-inclusion in trial	NR	NR	NA	NA
PRISM (NCT04775550)	https://clinicaltrials.gov/study/NCT04775550?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=17	08/03/2021	USA	SMM	2 years	NGS	NR	NA	NA
GMMG-CONCEPT (NCT03104842)	https://clinicaltrials.gov/study/NCT03104842?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=18	15/08/2017	Germany	NDMM (TE or TIE)	Post consolidation (approx. 1-year post first study dose)	NGF	NR	https://www.nature.com/articles/s41375-021-01431-x	NR
MILESTONE (NCT04991103)	https://clinicaltrials.gov/study/NCT04991103?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=19	22/09/2021	USA	NDMM TE	post 6 cycles of induction (6 months)	NR	10 [^] (-5)	https://www.sciencedirect.com/science/article/abs/pii/S0006497123112869 https://www.postersessiononline.eu/173580348_eu/congresos/ASH2023/aula/-/MON_4685_ASH2023.pdf	NR
HEME-18 (NCT05344833)	https://clinicaltrials.gov/study/NCT05344833?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=2&rank=20	05/01/2023	USA	≤2LOT TE MM	1 year	NGS	10 [^] (-5)	NA	NA
MRD2STOP (NCT04108624)	https://clinicaltrials.gov/study/NCT04108624?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=21	30/10/2019	USA	NDMM	3 years	NGS	10 [^] (-6)	NA	NA

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Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
COMMANDER (NCT05434689)	https://clinicaltrials.gov/study/NCT05434689?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=22	18/01/2023	USA	TE NDMM	4 years	NGS	10 [^] (-5)	NA	NA
NCT03477539	https://clinicaltrials.gov/study/NCT03477539?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=23	09/04/2018	USA	TE ≥1LOT MM	100 days post-ASCT	FC	NR	https://ashpublications.org/blood/article/140/Supplement%201/10165/489628/Peri-Transplant-and-Maintenance-Daratumumab-for	NR
REST (NCT04939844)	https://clinicaltrials.gov/study/NCT04939844?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=24	29/06/2021	Denmark Norway	TIE NDMM	34 months	NGF	10 [^] (-5)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10430979/	NR
NCT03290950	https://clinicaltrials.gov/study/NCT03290950?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=27	25/09/2017	USA	NDMM	2 years	NR	NR	https://pubmed.ncbi.nlm.nih.gov/33856405/	Up to 8 cycles of treatment
EMAT (NCT05690984)	https://clinicaltrials.gov/study/NCT05690984?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=28	26/06/2023	USA	TE NDMM	1 year	NGS	10 [^] (-5)	NA	NA
NCT03290950	https://clinicaltrials.gov/study/NCT03290950?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=27	25/09/2017	USA	NDMM	2 years	NR	NR	https://pubmed.ncbi.nlm.nih.gov/33856405/	Up to 8 cycles of treatment
EMAT (NCT05690984)	https://clinicaltrials.gov/study/NCT05690984?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=28	26/06/2023	USA	TE NDMM	1 year	NGS	10 [^] (-5)	NA	NA

Table S.3. Multiple myeloma clinical trials that measure MRD as a primary endpoint

Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
CARTITUDE-2 (NCT04133636)	https://clinicaltrials.gov/study/NCT04133636?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=3&rank=25	07/11/2019	Belgium France Germany Israel Netherlands Saudi Arabia Spain USA	TE NDMM, 1LOT TE MM, 1-3 LOT MM, Triple exposed MM, TIE MM	>1 year post CARVYKTI infusion	NGF	10 ^{−5}	https://pubmed.ncbi.nlm.nih.gov/36095849/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9012124/ https://ascopubs.org/doi/10.1200/JCO.2021.39.15_suppl.8013 https://journals.lww.com/hemasphere/fulltext/2023/05002/b09_cartitude_2_cohort_b_18_month_follow_up_19.aspx https://ashpublications.org/blood/article/142/Supplement%201/1021/499006/The-Phase-2-CARTITUDE-2-Trial-Updated-Efficacy-and https://ascopost.com/news/february-2024/ciltacabtagene-autoleucl-in-relapsed-or-refractory-multiple-myeloma/ https://ascopubs.org/doi/10.1200/JCO.2022.40.16_suppl.8029 https://www.sciencedirect.com/science/article/abs/pii/S2152265022016007 https://ashpublications.org/blood/article/141/3/219/486575/Efficacy-and-safety-of-cilta-cel-in-patients-with https://www.jnj.com/media-center/press-releases/janssen-reports-new-data-for-bcma-car-t-cilta-cel-showing-deep-and-durable-responses-in-patients-with-relapsed-or-refractory-multiple-myeloma https://pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/covidwho-2032118 https://www.sciencedirect.com/science/article/abs/pii/S2152265021020978 https://library.ehaweb.org/eha/2022/eha2022-congress/357819/jens.hillengass.ciltacabtagene.autoleucl.in.lenalidomide-refractory.patients.html?f=listing%3D3%2Abrowseby%3D8%2Asortby%3D1%2Amedia%3D1 https://multiplemyelomahub.com/medical-information/cartitude-2-cohorts-a-and-b-updated-efficacy-and-safety-results https://www.myeloma.org/videos/updated-results-phase-1b2-cartitude-1-study-cilta-cel-rrmm-patients https://www.astctjournal.org/article/S2666-6367(23)01789-X/abstract	MRD measured at day 56, and 6, 12, 18, 24 months regardless of disease status An additional sample was collected and assessed at the time of suspected complete response and every 12 months until progression

Table S.3. Multiple myeloma clinical trials that measure MRD as a primary endpoint

Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
NCT02253316	https://clinicaltrials.gov/study/NCT02253316?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status;rec%20act%20com&page=3&rank=30	20/01/2015	USA	TE NDMM	After 4 cycles of consolidation (Approximately 112 days after consolidation initiation)	NGS	10 [^] (-6)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10445424/ https://ashpublications.org/blood/article/134/Supplement_1/602/426431/ixazomib-or-Lenalidomide-Maintenance-Following https://www.sciencedirect.com/science/article/pii/S006497119361725 https://www.sciencedirect.com/science/article/pii/S006497118585190 https://ascopubs.org/doi/10.1200/EDBK.159016	NR
NCT03896737	https://clinicaltrials.gov/study/NCT03896737?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status;rec%20act%20com&page=4&rank=32	16/04/2019	Czechia Greece Italy	TE NDMM	At the end of induction, at the end of consolidation, and every 6 months after first maintenance treatment dose	NGS	10 [^] (-5)	NA	NA
GEM-TECTAL (NCT05849610)	https://clinicaltrials.gov/study/NCT05849610?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status;rec%20act%20com&page=4&rank=33	11/2023	Spain	NDMM (TE or TIE)	Approx. 22 months	NGF or FDG PET-CT	10 [^] (-6)	NA	NA
REACH (NCT05497804)	https://clinicaltrials.gov/study/NCT05497804?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status;rec%20act%20com&page=4&rank=39	22/09/2022	USA	NDMM	1 year	NR	NR	NA	NA
NCT05846737	https://clinicaltrials.gov/study/NCT05846737?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status;rec%20act%20com&page=4&rank=40	01/05/2023	China	TE NDMM	3 months post CAR-T infusion	NGF/NGS	NR	NA	NA
NCT04124497	https://clinicaltrials.gov/study/NCT04124497?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status;rec%20act%20com&page=5&rank=42	01/07/2019	Italy	RRMM	5 years	NGS	10 [^] (-5)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10171702/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10431092/ https://ashpublications.org/blood/article/140/Supplement%201/10193/489616/Dedalo-Phase-II-Study-of-Daratumumab-Plus	Within the first 12 months
AURIGA (NCT03901963)	https://clinicaltrials.gov/study/NCT03901963?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status;rec%20act%20com&page=5&rank=43	26/04/2019	Canada USA	TE NDMM	Up to 12 months after maintenance	NGS	10 [^] (-5)	https://ascopubs.org/doi/10.1200/JCO.2021.39.15.suppl.TPS8054	NR

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Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
NCT05801939	https://clinicaltrials.gov/study/NCT05801939?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=5&rank=47	11/07/2023	USA	RRMM	12 months	NR	NR	NA	NA
NCT04558931	https://clinicaltrials.gov/study/NCT04558931?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=5&rank=48	02/06/2021	Sweden	TE NDMM	Before start of maintenance, after first isatuximab cycle, before start of first isatuximab cycle, and 12- and 24-months post start of maintenance	NR	NR	NA	NA
NCT03652064	https://clinicaltrials.gov/study/NCT03652064?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=5&rank=50	06/11/2018	Brazil Canada Czechia France Germany Israel Japan Netherlands Poland Spain Turkey UK USA	TIE NDMM	Approximately 2.5 years	NGS	10 [^] (-5)	https://ascopubs.org/doi/10.1200/JCO.2019.37.15_suppl.TPS8056	After 12 months of maintenance Additional assessments occurred after 18, 24, and 36 months of maintenance
HEME-20 (NCT05192122)	https://clinicaltrials.gov/study/NCT05192122?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=6&rank=51	31/12/2021	USA	≥1 LOT TE MM	12 months after stopping maintenance	NGS	10 [^] (-6)	NA	NA
NCT04096066	https://clinicaltrials.gov/study/NCT04096066?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=6&rank=52	01/07/2019	Italy	TIE NDMM	5 years	NR	NR	NA	NA
NCT04680468	https://clinicaltrials.gov/study/NCT04680468?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=6&rank=53	25/05/2021	USA	≤2LOT TE MM	12 months post-ASCT	NGS	NR	NA	NA
NCT04756401	https://clinicaltrials.gov/study/NCT04756401?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=6&rank=56	08/12/2022	USA	RRMM (TE and TIE)	5 years post-treatment	FC	10 [^] (-5)	NA	NA

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Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
NCT04309084	https://clinicaltrials.gov/study/NCT04309084?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=6&rank=57	12/05/2020	USA	TE NDMM	Day 90-100	NR	NR	NA	NA
NCT05091372	https://clinicaltrials.gov/study/NCT05091372?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=7&rank=68	01/12/2022	USA	TE NDMM	Average 12 months	NR	NR	NA	NA
ELIAS (NCT05665140)	https://clinicaltrials.gov/study/NCT05665140?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=7&rank=70	03/02/2023	Germany	TE NDMM	40 weeks after induction starts	FC	NR	NA	NA
NCT04933539	https://clinicaltrials.gov/study/NCT04933539?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=8&rank=71	31/10/2022	USA	SMM	336 days	FC	10 [^] (-5)	NA	NA
NCT05422027	https://clinicaltrials.gov/study/NCT05422027?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=8&rank=75	25/07/2022	China	NDMM	Up to 12 months	NR	10 [^] (-5)	NA	NA
NCT05060627	https://clinicaltrials.gov/study/NCT05060627?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=8&rank=76	20/12/2021	Spain	RRMM	12, 18, 24 months	NGF	NR	NA	NA
NCT05860036	https://clinicaltrials.gov/study/NCT05860036?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=8&rank=77	01/04/2023	China	TIE NDMM	3 months post CAR-T infusion	NGS or NGF	NR	NA	NA

Table S.3. Multiple myeloma clinical trials that measure MRD as a primary endpoint

Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
NCT02389517	https://clinicaltrials.gov/study/NCT02389517?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=9&rank=87	02/03/2015	USA	TE NDMM	12 months	FC and sequencing	NR	NA	NA
NCT04483206	https://clinicaltrials.gov/study/NCT04483206?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=9&rank=88	20/05/2021	USA	RRMM	90 days post-transplant	NGS	NR	https://www.sciencedirect.com/science/article/abs/pii/S266636723019516	NR
NCT04891809	https://clinicaltrials.gov/study/NCT04891809?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=11&rank=110	20/10/2021	Austria Greece Serbia	TIE NDMM	After 8 cycles of treatment (8 months)	NGF	10 [^] (-5)	NA	NA
NCT05840107	https://clinicaltrials.gov/study/NCT05840107?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=11&rank=108	04/05/2023	China	TIE NDMM	Time frame: up to 2 years after CAR-T injection	NR	NR	NA	NA
NCT02969837	https://clinicaltrials.gov/study/NCT02969837?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=11&rank=106	10/07/2017	United States	TE and TIE NDMM	At the end of month 8 (after 8 cycles of treatment)	NGS	NR	https://pubmed.ncbi.nlm.nih.gov/35862034/	Secondary end points included safety, rate of response, MRD status, PFS, and OS. As an exploratory analysis, MRD was assessed using liquid chromatography MS on peripheral blood samples.
REM NANT (NCT04513639)	https://clinicaltrials.gov/study/NCT04513639?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=12&rank=112	27/08/2020	Norway	TE NDMM	30-45 days post-consolidation	NGF	10 [^] (-5)	NA	NA
NCT06282978	https://clinicaltrials.gov/study/NCT06282978?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=13&rank=127	23/11/2023	Spain	RRMM	At 6 and 12 months after start of treatment	NGF	at least 10 [^] (-5)	NA	NA

Table S.3. Multiple myeloma clinical trials that measure MRD as a primary endpoint

Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
NCT03490344	https://clinicaltrials.gov/study/NCT03490344?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=13&rank=123	03/05/2018	United States	TE and TIE NDMM or RRMM	After 6 months of maintenance	FC	NR	NA	NA
NCT03500445	https://clinicaltrials.gov/study/NCT03500445?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=14&rank=139	13/02/2019	United States	TE and TIE NDMM	After 8 cycles of treatment (8 months)	NGS	NR	NA	NA
LINKER-MM4 (NCT05828511)	https://clinicaltrials.gov/study/NCT05828511?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=16&rank=158	19/12/2023	United States France	TE and TIE NDMM	After induction (TE cohort); best response/NR (TIE cohort)	NR	10 [^] (-5)	NA	NA
NCT05979363	https://clinicaltrials.gov/study/NCT05979363?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=16&rank=152	01/07/2023	China	TIE MM	within 1 week after consolidation treatment	NGS or NGF	NR	NA	NA
NCT04935580	https://clinicaltrials.gov/study/NCT04935580?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=16&rank=151	28/06/2021	China	TE NDMM	Up to 2 years after treatment	NGF	10 [^] (-5)-10 [^] (-4)	https://www.sciencedirect.com/science/article/pii/S0006497123076255	All evaluable patients achieved MRD negativity at Month 1, and maintained MRD-at landmark analysis of Month 6 and Month 12
NCT05850286	https://clinicaltrials.gov/study/NCT05850286?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=17&rank=166	20/04/2023	China	NDMM	After induction; 1 month after first CAR-T cell transfusion; end of consolidation therapy; 12 months after second CAR-T cell transfusion	NR	NR	NA	NA
NCT04287855	https://clinicaltrials.gov/study/NCT04287855?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=17&rank=161	28/08/2020	France	RRMM	Time frame: up to 5 years	NR	10 [^] (-5)	https://www.sciencedirect.com/science/article/abs/pii/S0006497123133386 https://ashpublications.org/blood/article/142/Supplement%201/6742/506305/Multicenter-Open-Label-Phase-2-Study-of-Quadruplet	NR
GMMG HD7 (NCT03617731)	https://clinicaltrials.gov/study/NCT03617731?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=18&rank=174	18/10/2018	Germany	TE NDMM	18 weeks after start of study treatment	FC	at least 10 [^] (-5)	https://pubmed.ncbi.nlm.nih.gov/36328040/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9429267/	NR

Table S.3. Multiple myeloma clinical trials that measure MRD as a primary endpoint

Trial data				Patients	MRD testing methods			Supplementary searches	
Trial name	Link to trial on ClinicalTrials.gov	Trial start date	Trial location	Patient population	Time point(s) of MRD measurement(s)	MRD measurement technique	Sensitivity threshold	Supplementary source (Publication)	Supplementary information from supplementary source
NCT03948035	https://clinicaltrials.gov/study/NCT03948035?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=20&rank=195	28/08/2018	Austria Germany	TE NDMM	At the end of cycle 6 of induction treatment (168 days + up to 36 days)	FC	NR	https://ascopubs.org/doi/10.1200/JCO.2023.4116.supp1.8000	NR
NCT05618041	https://clinicaltrials.gov/study/NCT05618041?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=21&rank=210	07/09/2022	China	RRMM	3 months post CAR-T cell infusion	NR	NR	https://pubmed.ncbi.nlm.nih.gov/38062808/	NR
NCT05866757	https://clinicaltrials.gov/study/NCT05866757?cond=Multiple%20Myeloma&start=2014-01-01_2023-12-31&outc=MRD&aggFilters=status:rec%20act%20com&page=22&rank=216	28/08/2023	Ireland	TE NDMM	12 months after maintenance discontinuation	NGF	NR	NA	NA

Abbreviations used	Definition
ASCT	autologous stem cell transplant
FC	flow cytometry
FDG PET-CT	F-fluorodeoxyglucose positron emission tomography-computed tomography
LOT	line of therapy
MFC	multiparameter flow cytometry
MM	multiple myeloma
MRD	minimal residual disease
MS	mass spectrometry
NA	not available
NDMM	newly-diagnosed multiple myeloma
NGF	next-generation flow cytometry
NGS	next-generation sequencing
NR	not reported
OS	overall survival
PFS	progression-free survival
RRMM	relapse-refractory multiple myeloma
SMM	smoldering multiple myeloma
TE	transplant-eligible
TIE	transplant-ineligible
WB-DWI	whole-body diffusion-weighted magnetic resonance imaging