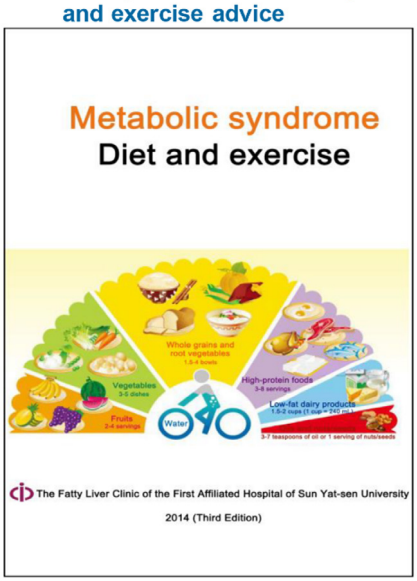
A

An easy-to-carry brochure with personalized dietary and exercise advice



B

Recipes examples

1200 kcal recipe:

Suitable for those who need 1200-1300 kcal daily. Use 15 grams of cooking oil. (1.5 tablespoons) and 6 grams of salt (3 grams for hypertensive patients, 2 grams for hypertensive patients with diabetes) throughout the day.

Breakfast (Choose any one)	
1	Low-fat milk/soy milk (1 cup/250ml), boiled egg (1) Soda cracker (5 pieces)
2	Low-fat milk/soy milk (1 cup/250ml), boiled egg (1) Steamed bun (1), fresh tomato (1)
3	Low-fat milk/soy milk (1 cup/250ml), boiled egg (1) Vegetable salad (1 small bowl), savory bread (2 pieces)
Lunch (Choose any one)	
1	Rice (1 small bowl/100g) Tir-fried shredded vegetables (100g green bell pepper, 100g jute stem, 50g pork) Mushroom and tofu soup (50g mushrooms, 50g tofu)
2	Rice (1 small bowl/100g) Stir-fried bottle gourd with scrambled eggs (80g bottle gourd, 50g eggs) Fish ball and cabbage soup (50g fish meat, 200g cabbage)
3	Noodles (1 small bowl/100g) Cold mixed bitter melon (100g bitter melon) Radish stewed beef (50g carrots, 50g beef)
Afternoon snacks (Choose any one)	
	Green apple (1 small), orange (1 small), pear (1 small)
Dinner (Choose any one)	
1	Rice (1 small bowl / 100g) Stir-fried zucchini with shredded chicken (60g zucchini, 50g shredded chicken) Minced pork with mustard bean curd (lean pork 25g, mustard mustard 50g, tofu 100g)
2	Rice (1 small bowl / 100g) Cauliflower sliced Pork (100g cauliflower, 50g lean pork) Shredded kelp mixed (50g wet kelp)
3	Steamed bun (1) Spare ribs with Kelp (wet kelp 100g, spare ribs 50g) Stir-fried spinach (spinach 100g)
Dessert after dinner (Choose any one)	
	Pear (1 small), pomelo (2-3 slices), strawberries (4-5 pieces)

1500 kcal recipe:

Suitable for those who need 1500-1600 kcal daily. Use 15 grams of cooking oil. (1.5 tablespoons) and 6 grams of salt (3 grams for hypertensive patients, 2 grams for hypertensive patients with diabetes) .

Breakfast (Choose any one)	
1	Low-fat milk/soy milk (250ml), boiled egg (1), steamed twisted roll (1)
2	Low-fat milk/soy milk (250ml), boiled egg (1), steamed bun(1)
3	Low-fat milk/soy milk (250ml), boiled egg (1), Sugar-free rice cake (1)
Lunch (Choose any one)	
1	Rice (1 small bowl/100g) Stir-fried pork slices with zucchini (50g lean pork, 100g zucchini) Stir-fried baby bok choy with shiitake mushrooms (5g shiitake mushrooms, 150g baby bok choy) Dried shrimp and seaweed soup (5g dried shrimp, 2g seaweed, 25g cucumber)
2	Rice (1 small bowl/100g) Poached chicken (100g) Spinach soup (50g spinach, 2g seaweed)
3	Pastry (1 sheet) Kaiyang bean sprouts (Mung bean sprouts 100g, Kaiyang 5-6) Meatballs (Lean pork 100g) Tomato and egg soup (1 tomato, 1 egg)
Afternoon snacks (Choose any one)	
	Oranges (1), watermelon (1-2 pieces), strawberries (4-5 pieces)
Dinner (Choose any one)	
1	Rice (1 small bowl / 100g) Lettuce in onion oil (150g lettuce) Minced pork with tofu (lean pork 25g, tofu 50g)
2	Rice (1 small bowl / 100g) Mixed bitter melon (100g) Celery and shredded pork (150g celery, 50g lean pork) Green vegetable Soup (150g green vegetable)
3	Steamed bun (1) Fried White Melon with plain (White melon 150g) Shredded pork with salted vegetable (25g lean pork, 50g potherb mustard) Ham and winter melon soup (150g winter melon, several slices of ham)
Dessert after dinner (Choose any one)	
	Green apple (1), pear (1), strawberry (4-5)

1700 kcal recipe

Suitable for those who need 1700-1800 kcal daily. Use 25 grams of cooking oil. (2.5 tablespoons) and 6 grams of salt (3 grams for hypertensive patients, 2 grams for hypertensive patients with diabetes) throughout the day.

Breakfast (Choose any one)	
1	Low-fat milk/soy milk (250ml), boiled egg (1), steamed twisted roll (1)
2	Low-fat milk/soy milk (1 cup /250ml), steamed bun (1 piece), meat floss (1 small dish)
3	Low fat milk/soy milk (1 cup /250ml), boiled egg (1), salted bread (2 slices), mixed cucumber (half)
Lunch (Choose any one)	
1	Rice (1 bowl / 150g) Seaweed salad (100g wet seaweed) Sliced cauliflower (50g lean pork, 100g cauliflower) Loofah Egg Soup (50g loofah, 50g egg)
2	Rice (1 bowl / 150g) Spare ribs with kelp (100g spare ribs, 100g wet kelp) Stir-fried cabbage with plain (cabbage 200g)
3	Scallion cake (standard flour 100g) Stir-fried three shreds (lean pork 50g, green pepper 100g, water stem 100g) Mixed radish and jellyfish (radish 100g, jellyfish 50g) Prawn skin and seaweed soup (50g prawn skin, 2g seaweed)
Afternoon snacks (Choose any one)	
	Peach (1), apple (1), pear (1)
Dinner (Choose any one)	
1	Rice (1 bowl / 150g) Ham and winter melon (slices of ham, 150g winter melon) Mushroom tofu (50g mushroom, 100g tofu)
2	Pastry (1 sheet) Fried pork slices with water gluten (100g water gluten, 50g lean pork) Mixed Mung bean sprouts (100g mung bean sprouts) Pickled mustard Soup (15g)
3	Steamed bun (1) Spinach balls (lean pork 100g, spinach 150g) Cowpea with garlic sauce (Cowpea 150g)
Dessert after dinner (Choose any one)	
	Strawberries (4-5), oranges (1), pears (1)

Figure S1 Dietary management.

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Table S1 Principles of intensified lifestyle intervention plan

Principle	Amount
Dietary changes	
Limit calorie intake	
Energy (kJ/day)	1,067
Protein (34.3%) (g/day)	22.9
Fat (22.2%) (g/day)	6.6
Carbohydrate (38.1%) (g/day)	25.4
Increase intake of fiber-rich foods (g/day)	40–45
Include seasonal greens and fruits (g/day)	>600
Include sea fish (g/week)	200
Limit the amount of sodium (g/day)	<6.0
Limit processed food items	–
Ad libitum intake of water and tea is allowed	–
Alcohol is discouraged throughout the intervention period	–
Increase physical activity	
Increase duration of physical activity (minutes/weeks)	150–240
Training modality (aerobic and/or resistance training)	Decided by the trainers
Encourage 10,000 steps per day	–
Avoid sedentary behaviour	–
Increase sleep duration (hours/night)	7–8

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Table S2 Baseline characteristics of MASLD patients stratified by MRI-PDFF response or LSM response status at 24 weeks

Characteristics	Liver steatosis				Liver fibrosis			
	Total[†] (n=602)	MRI-PDFF response at 24 weeks (n=340)	MRI-PDFF nonresponse at 24 weeks (n=249)	P	Total[‡] ((n=265)	LSM response at 24 weeks (n=118)	LSM nonresponse at 24 weeks (n=143)	P
Age (years)	41.1±13.6	41.6±13.9	40.1±13.2	0.19	44.7±13.1	41.7±11.9	47.1±13.6	0.001
Male	441 (73.3)	245 (72.1)	188 (75.5)	0.35	184 (69.4)	87 (73.7)	95 (66.4)	0.20
Weight (kg)	76.6±12.2	76.8±11.8	76.6±12.6	0.79	77.7±12.9	77.6±11.9	78.0±13.6	0.77
BMI (kg/m^2)	27.4±3.4	27.7±3.4	27.2±3.5	0.17	28.5±3.5	28.2±3.3	28.7±3.5	0.22
WC (cm)	91.3±8.3	91.8±8.1	91.0±8.5	0.27	93.4±8.3	93.0±7.6	94.0±8.8	0.31
Waist-hip ratio	0.90±0.05	0.90±0.05	0.90±0.05	0.50	0.91±0.04	0.91±0.05	0.92±0.04	0.50
CHOL (mmol/L)	5.04±1.05	5.11±1.11	4.96±0.97	0.09	5.03±1.14	5.08±0.93	4.98±1.28	0.45
TG (mmol/L)	1.62 (1.14, 2.21)	1.66 (1.18, 2.27)	1.61 (1.07, 2.18)	0.14	1.65 (1.20, 2.27)	1.68 (1.33, 2.20)	1.63 (1.14, 2.38)	0.98
HDL-C (mmol/L)	1.16±0.29	1.15±0.29	1.18±0.30	0.14	1.12±0.26	1.10±0.23	1.13±0.29	0.26
LDL-C (mmol/L)	3.17±0.77	3.23±0.81	3.10±0.71	0.05	3.18±0.83	3.29±0.72	3.08±0.90	0.045
FFA (mmol/L)	521 (422, 681)	539 (438, 717)	497 (412, 618)	0.01	553 (440, 735)	520 (426, 671)	587 (469, 756)	0.005
FBG (mmol/L)	4.9 (4.6, 5.5)	5.0 (4.6, 5.7)	4.9 (4.5, 5.3)	0.09	5.0 (4.7, 6.0)	5.0 (4.7, 6.1)	5.1 (4.7, 6.0)	0.75
FINS (μU/mL)	10.8 (7.9, 14.8)	11.0 (8.5, 15.2)	10.4 (7.5, 14.7)	0.09	11.2 (8.9, 16.1)	12.6 (9.8, 20.1)	11.0 (8.0, 14.6)	0.009
HOMA-IR	2.46 (1.75, 3.60)	2.65 (1.81, 3.70)	2.30 (1.69, 3.50)	0.03	2.69 (1.93, 4.02)	2.78 (2.20, 4.65)	2.66 (1.77, 3.63)	0.03
UA (μmol/L)	427.7±102.4	432.5±103.0	420.8±100.8	0.18	418.7±94.5	410.3±98.6	424.4±90.4	0.23
ALT (U/L)	45.5 (28.0, 75.0)	50.0 (32.0, 82.0)	36.5 (25.0, 63.8)	<0.001	39.0 (27.0, 74.5)	40.0 (30.8, 81.8)	35.0 (24.0, 70.0)	0.08
AST (U/L)	33.0 (24.0, 48.0)	36.0 (26.0, 54.0)	30.0 (22.0, 42.0)	<0.001	33.0 (23.0, 50.5)	36.5 (23.0, 59.0)	29.0 (23.0, 47.0)	0.06
GGT (U/L)	44.0 (28.8, 72.0)	47.0 (30.0, 72.0)	40.0 (26.0, 62.5)	0.03	42.0 (27.0, 63.0)	42.0 (30.0, 61.0)	41.0 (23.0, 63.8)	0.41
ALP (U/L)	78.0 (67.0, 89.0)	78.0 (67.0, 91.0)	76.0 (64.8, 88.0)	0.17	78.0 (66.0, 90.0)	78.0 (67.0, 92.0)	76.0 (62.0, 89.0)	0.09
Albumin (g/L)	45.9±3.1	45.9±3.2	46.0±3.0	0.69	45.3±3.4	45.7±2.9	45.0±3.7	0.10
TB (μmol/L)	12.7 (10.1, 16.2)	12.7 (10.2, 16.3)	12.7 (10.0, 16.2)	0.64	12.8 (10.4, 16.1)	12.3 (10.3, 16.9)	13.2 (10.5, 15.7)	0.57
TBA (μmol/L)	2.7 (1.8, 4.2)	2.6 (1.8, 4.1)	3.0 (1.8, 4.3)	0.43	2.7 (2.0, 4.5)	2.7 (2.0, 4.1)	2.7 (1.8, 5.5)	0.95
LFC (%)	14.4 (10.0, 22.4)	17.1 (11.7, 25.0)	11.7 (8.0, 18.7)	<0.001	14.3 (9.5, 22.0)	18.9 (11.3, 24.3)	11.9 (9.0, 18.0)	<0.001
LSM (kpa)	6.3 (5.4, 7.9)	6.7 (5.6, 8.0)	6.0 (5.3, 7.8)	0.006	7.9 (7.2, 9.1)	8.0 (7.6, 9.6)	7.8 (6.9, 8.8)	0.06
Hypertension	158 (26.3)	95 (27.9)	62 (24.9)	0.43	82 (30.9)	34 (28.8)	47 (32.9)	0.46
Diabetes mellitus	95 (15.8)	63 (18.5)	32 (12.9)	0.09	58 (21.9)	14 (11.9)	44 (30.8)	<0.001
Smoking	63 (10.5)	30 (8.8)	31 (12.4)	0.16	17 (6.4)	7 (5.9)	9 (6.3)	0.86
Regular exercise[§]	470 (78.1)	297 (87.4)	162 (65.1)	<0.001	213 (80.4)	98 (83.1)	111 (77.6)	0.36
Caloric restriction[§]	319 (53.0)	220 (64.7)	95 (38.2)	<0.001	156 (58.9)	59 (50.00)	95 (66.4)	0.01
Lipid-lowering drug	201 (33.4)	113 (33.2)	86 (34.5)	0.76	110 (41.5)	46 (39.0)	63 (44.1)	0.45
Hypoglycemic drug	47 (7.8)	33 (9.7)	13 (5.22)	0.048	29 (10.9)	6 (5.1)	23 (16.1)	0.005
Uric-acid-lowering drug	76 (12.6)	50 (14.7)	24 (9.6)	0.07	39 (14.7)	19 (16.1)	19 (13.3)	0.53
Intensified lifestyle intervention	164 (27.2)	94 (27.6)	68 (27.3)	0.96	92 (34.7)	37 (31.4)	55 (38.5)	0.26

Values are expressed as mean ± standard deviation, median (interquartile range) or n (%). [†], 602 MASLD patients included in the efficacy analysis for hepatic steatosis; [‡], 265 MASLD patients who had fibrosis stage ≥1 at baseline included in the efficacy analysis for hepatic fibrosis; [§], the lifestyle status at 0–24 weeks after enrollment. Caloric restriction was defined as a reduction in energy (caloric) intake of 500–1,000 kcal/day from baseline; Regular exercise was defined as moderate-to-vigorous physical activity at least once a week. MASLD, metabolic dysfunction-associated steatotic liver disease; MRI-PDFF, magnetic resonance imaging proton density fat fraction; LSM, liver stiffness measurement; BMI, body mass index; WC, waist circumference; CHOL, total cholesterol; TG, triglyceride; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; FFA, free fatty acid; FBG, fasting blood glucose; FINS, fasting insulin; HOMA-IR, homeostasis model assessment of insulin resistance; UA, uric acid; ALT, alanine aminotransferase; AST, aspartate aminotransferase; GGT, γ-glutamyl transpeptidase; ALP, alkaline phosphatase; TB, total bilirubin; TBA, total bile acid; LFC, liver fat content.

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Table S3 Baseline characteristics of MASLD patients who stayed in the cohort and those who were lost to follow-up

Characteristics	Liver steatosis				Liver fibrosis			
	Analyzable participants (n=303)	Lost to follow-up at 0–24 weeks (n=13)	Lost to follow-up at 24–48 weeks (n=37)	P	Analyzable participants (n=107)	Lost to follow-up at 0–24 weeks (n=4)	Lost to follow-up at 24–48 weeks (n=11)	P
Age (years)	42.0±13.9	44.0±13.7	38.9±13.7	0.38	42.1±11.3	45.8±14.2	37.7±16.3	0.41
Male	221 (72.9)	8 (61.5)	24 (64.9)	0.43	77 (72.0)	2 (50.0)	10 (90.9)	0.20
Weight (kg)	76.7±11.6	70.1±12.1	78.4±14.0	0.10	77.1±11.2	68.0±14.6	81.6±17.5	0.41
BMI (kg/m^2)	27.7±3.3	25.7±2.5	27.5±3.7	0.13	28.2±3.2	25.0±3.3	28.6±4.1	0.26
WC (cm)	91.7±8.0	85.4±6.6	92.0±8.7	0.02	92.8±7.6	85.3±7.5	94.8±7.9	0.10
Waist-hip ratio	0.90±0.05	0.87±0.04	0.90±0.04	0.05	0.91±0.05	0.88±0.04	0.90±0.03	0.28
CHOL (mmol/L)	5.08±1.08	4.84±1.09	5.42±1.33	0.19	5.04±0.91	5.30±1.57	5.50±1.05	0.29
TG (mmol/L)	1.68 (1.18, 2.27)	1.42 (0.92, 1.89)	1.39 (1.02, 2.41)	0.28	1.69 (1.32, 2.20)	1.69 (1.19, 2.11)	1.68 (1.50, 2.21)	0.88
HDL-C (mmol/L)	1.14±0.27	1.16±0.22	1.20±0.46	0.58	1.10±0.23	1.13±0.20	1.05±0.17	0.71
LDL-C (mmol/L)	3.20±0.80	3.08±0.76	3.48±0.92	0.17	3.25±0.70	3.49±1.05	3.60±0.83	0.28
FFA (mmol/L)	541 (438, 739)	605 (436, 857)	536 (456, 610)	0.53	508 (424, 691)	572 (416, 662)	542 (492, 544)	0.96
FBG (mmol/L)	5.0 (4.6, 5.7)	4.8 (4.7, 5.6)	4.7 (4.5, 5.5)	0.65	5.0 (4.6, 6.0)	4.8 (4.7, 6.3)	5.2 (5.0, 6.1)	0.60
FINS (μU/mL)	11.0 (8.5, 14.9)	9.3 (4.6, 13.1)	10.4 (6.0, 20.9)	0.08	12.8 (9.7, 19.9)	11.9 (6.0, 16.6)	10.4 (9.8, 30.2)	0.68
HOMA-IR	2.65 (1.85, 3.70)	1.89 (1.01, 3.14)	2.29 (1.41, 5.00)	0.15	2.80 (2.20, 4.40)	2.51 (1.27, 4.72)	2.65 (2.31, 5.64)	0.61
UA (μmol/L)	433.2±100.9	430.3±115.7	424.6±125.3	0.91	404.4±95.1	462.8±118.6	468.4±117.3	0.07
ALT (U/L)	50.0 (32.0, 83.0)	58.0 (42.0, 111.5)	57.5 (37.0, 77.0)	0.46	38.0 (30.0, 72.0)	111.5 (36.5, 125.8)	84.0 (62.0, 93.0)	0.04
AST (U/L)	36.0 (26.0, 56.0)	30.0 (25.0, 58.5)	37.0 (26.5, 42.5)	0.87	34.0 (22.0, 51.0)	58.5 (33.5, 82.8)	59.0 (36.0, 81.0)	0.049
GGT (U/L)	47.0 (30.0, 72.0)	51.0 (33.0, 185.5)	49.0 (28.0, 81.8)	0.55	40.5 (29.8, 61.0)	185.5 (60.0, 284.8)	48.0 (37.0, 58.0)	0.03
ALP (U/L)	78.0 (67.0, 91.0)	82.0 (74.0, 85.0)	80.0 (71.0, 89.0)	0.75	78.0 (67.0, 90.0)	84.0 (73.5, 126.0)	85.0 (76.8, 99.0)	0.28
Albumin (g/L)	45.9±3.2	45.9±3.2	44.9±4.3	0.17	45.6±2.9	45.7±2.9	47.1±2.5	0.15
TB (μmol/L)	12.7 (10.2, 16.2)	12.7 (10.0, 16.2)	12.9 (9.7, 19.2)	0.48	12.3 (10.0, 17.0)	12.9 (10.0, 16.0)	13.3 (11.1, 16.2)	0.45
TBA (μmol/L)	2.6 (1.8, 4.1)	3.0 (1.8, 4.3)	2.5 (2.0, 4.1)	0.96	2.7 (2.0, 4.1)	2.6 (1.8, 4.3)	4.1 (3.5, 4.5)	0.03
LFC (%)	17.5 (11.7, 25.5)	10.5 (7.2, 26.3)	16.1 (12.3, 22.0)	0.41	18.3 (11.3, 24.3)	14.3 (7.9, 28.6)	20.5 (12.4, 33.1)	0.40
LSM (kpa)	6.7 (5.6, 8.0)	5.5 (5.0, 7.4)	5.7 (4.8, 7.9)	0.03	8.0 (7.6, 9.6)	8.3 (7.1, 9.2)	8.0 (6.8, 10.3)	0.77
Hypertension	84 (27.7)	1 (7.7)	11 (29.7)	0.20	28 (26.2)	1 (25.0)	6 (54.5)	0.17
Diabetes mellitus	57 (18.8)	0 (0.0)	5 (13.5)	0.06	14 (13.1)	0 (0.0)	0 (0.0)	0.14
Smoking	26 (8.6)	2 (15.4)	4 (10.8)	0.73	4 (3.7)	1 (25.0)	3 (27.3)	0.02
Regular exercise[†]	265 (87.5)	–	31 (83.8)	0.71	87 (81.3)	–	9 (81.8)	1.00
Caloric restriction[†]	196 (64.8)	–	24 (64.9)	0.98	53 (49.5)	–	6 (54.5)	0.75
Lipid-lowering drug	102 (33.7)	2 (15.4)	10 (27.0)	0.28	40 (37.4)	1 (25.0)	6 (54.5)	0.47
Hypoglycemic drug	30 (9.9)	0 (0.0)	3 (8.1)	0.23	6 (5.6)	0 (0.0)	0 (0.0)	0.44
Uric-acid-lowering drug	45 (14.9)	2 (15.4)	5 (13.5)	0.99	14 (13.1)	1 (25.0)	5 (45.5)	0.047
Intensified lifestyle intervention	86 (28.4)	1 (7.7)	8 (21.6)	0.13	33 (30.8)	0 (0.0)	4 (36.4)	0.21

Values are expressed as mean ± standard deviation, median (interquartile range) or n (%). [†], the lifestyle status at 0–24 weeks after enrollment. Caloric restriction was defined as a reduction in energy (caloric) intake of 500–1,000 kcal/day from baseline; regular exercise was defined as moderate-to-vigorous physical activity at least once a week. BMI, body mass index; WC, waist circumference; CHOL, total cholesterol; TG, triglyceride; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; FFA, free fatty acid; FBG, fasting blood glucose; FINS, fasting insulin; HOMA-IR, homeostasis model assessment of insulin resistance; UA, uric acid; ALT, alanine aminotransferase; AST, aspartate aminotransferase; GGT, γ-glutamyl transpeptidase; ALP, alkaline phosphatase; TB, total bilirubin; TBA, total bile acid; LFC, liver fat content; LSM, liver stiffness measurement.

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Table S4 Comparison of changes in outcome values between MASLD patients with and without MRI-PDFF response at 48 weeks

Characteristics	Sustained MRI-PDFF response (n=214)		Loss of MRI-PDFF response (n=89)		P value			
	ΔBaseline-24w [1]	ΔBaseline-48w [2]	ΔBaseline-24w [3]	ΔBaseline-48w [4]	[1] *vs.* [2]	[3] *vs.* [4]	[1] *vs.* [3]	[2] *vs.* [4]
Weight (kg)	3.69±3.81	3.97± 4.97	3.95±3.48	1.78±3.37	0.52	<0.001	0.59	<0.001
BMI (kg/m^2)	1.34±1.38	1.44±1.76	1.41±1.26	0.66±1.24	0.52	<0.001	0.69	<0.001
WC (cm)	3.32±4.50	3.39±5.24	4.16±4.79	1.80±5.27	0.88	0.003	0.16	0.02
Waist-hip ratio	0.01±0.04	0.01±0.04	0.02±0.04	0.01±0.04	0.46	0.48	0.12	0.28
CHOL (mmol/L)	0.53±1.02	0.41±1.11	0.37±1.03	0.04±1.24	0.23	0.052	0.23	0.01
TG (mmol/L)	0.23 (–0.08, 0.75)	0.20 (–0.16, 0.77)	0.09 (–0.13, 0.72)	0.12 (–0.26, 0.53)	0.60	0.19	0.37	0.07
HDL-C (mmol/L)	–0.03±0.22	–0.05±0.18	–0.04±0.22	–0.05±0.27	0.24	0.75	0.75	0.93
LDL-C (mmol/L)	0.41±0.78	0.31±0.86	0.23±0.82	0.01±0.93	0.20	0.09	0.07	0.007
FFA (mmol/L)	29.0 (–64.0, 189.5)	32.0 (–58.0, 192.3)	125.0 (–6.0, 207.0)	28.5 (–50.0, 153.3)	0.44	0.04	0.09	0.44
FBG (mmol/L)	0.20 (–0.23, 0.60)	0.00 (–0.40, 0.40)	0.10 (–0.10, 0.60)	0.00 (–0.59, 0.60)	0.03	0.03	0.51	0.70
FINS (μU/mL)	1.93 (–0.17, 4.72)	2.36 (0.00, 5.17)	1.54 (–0.61, 5.24)	0.19 (–1.85, 3.71)	0.35	0.11	0.55	0.001
HOMA-IR	0.50 (–0.09, 1.22)	0.56 (–0.08, 1.35)	0.48 (–0.21, 1.49)	0.11 (–0.64, 1.04)	0.68	0.06	0.96	0.01
UA (μmol/L)	34.58±104.84	21.49±103.39	33.84±124.92	–11.58±122.91	0.19	0.02	0.96	0.02
ALT (U/L)	15.50 (2.00, 45.25)	15.00 (2.00, 47.25)	21.00 (1.00, 59.00)	5.00 (–7.00, 29.00)	0.98	<0.001	0.47	<0.001
AST (U/L)	10.00 (1.00, 26.00)	9.00 (1.00, 28.00)	10.00 (1.00, 29.00)	3.00 (–2.00, 13.50)	0.67	0.004	0.59	0.002
GGT (U/L)	13.00 (3.00, 35.00)	12.50 (3.00, 37.75)	11.50 (1.25, 30.50)	6.50 (–2.25, 17.00)	0.90	0.009	0.53	0.001
ALP (U/L)	3.00 (–4.00, 10.00)	4.00 (–3.00, 13.00)	2.00 (–3.75, 9.75)	3.00 (–3.00, 7.75)	0.11	0.92	0.88	0.20
Albumin (g/L)	–0.03±2.74	0.28±2.81	–0.26±2.91	0.46±2.59	0.27	0.10	0.52	0.62
TB (μmol/L)	–0.30 (–2.30, 2.30)	–0.45 (–2.60, 2.48)	0.80 (–1.80, 3.00)	–0.10 (–2.10, 1.45)	0.68	0.06	0.09	0.84
TBA (μmol/L)	0.00 (–0.90, 1.10)	0.20 (–0.50, 1.18)	–0.05 (–1.00, 0.58)	0.20 (–0.55, 1.75)	0.30	0.07	0.35	0.52
LFC (%)	8.17 (5.02, 13.84)	9.28 (5.52, 13.04)	6.20 (4.63, 12.22)	1.23 (–0.69, 4.31)	0.40	<0.001	0.054	<0.001
LSM (kpa)	0.60 (0.10, 1.80)	1.00 (0.20, 2.60)	0.70 (0.10, 1.80)	0.70 (–0.50, 1.10)	0.03	0.10	0.58	0.001
Regular exercise	190 (88.8)	189 (88.3)	75 (84.3)	63 (70.8)	0.97	0.06	0.36	0.002
Caloric restriction	142 (66.4)	127 (59.3)	54 (60.7)	29 (32.6)	0.20	0.001	0.40	<0.001
Lipid-lowering drug	69 (32.2)	73 (34.1)	33 (37.1)	21 (23.6)	0.71	0.06	0.43	0.08
Hypoglycemic drug	19 (8.9)	23 (9.8)	11 (12.4)	8 (9.0)	0.56	0.43	0.33	0.67
Uric acid lowering drug	26 (12.1)	28 (13.1)	19 (21.3)	19 (21.3)	0.83	0.92	0.06	0.06
Intensified lifestyle intervention	60 (28.0)	69 (32.2)	26 (29.2)	29 (32.6)	0.35	0.58	0.87	0.90

Values are expressed as mean ± standard deviation, median (interquartile range) or n (%). MASLD, metabolic dysfunction-associated steatotic liver disease; MRI-PDFF, magnetic resonance imaging proton density fat fraction; 24w, 24 weeks; 48w, 48 weeks; BMI, body mass index; WC, waist circumference; CHOL, total cholesterol; TG, triglyceride; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; FFA, free fatty acid; FBG, fasting blood glucose; FINS, fasting insulin; HOMA-IR, homeostasis model assessment of insulin resistance; UA, uric acid; ALT, alanine aminotransferase; AST, aspartate aminotransferase; GGT, γ-glutamyl transpeptidase; ALP, alkaline phosphatase; TB, total bilirubin; TBA, total bile acid; LFC, liver fat content; LSM, liver stiffness measurement.

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Table S5 Comparison of changes in outcome values between MASLD patients without and with LSM response at 48 weeks

Characteristics	Sustained LSM response (n=90)		Loss of LSM response (n=17)		P value			
	ΔBaseline-24w [1]	ΔBaseline-48w [2]	ΔBaseline-24w [3]	ΔBaseline-48w [4]	[1] *vs.* [2]	[3] *vs.* [4]	[1] *vs.* [3]	[2] *vs.* [4]
Weight (kg)	3.62±3.72	3.57±4.35	4.85±7.48	3.45±6.82	0.94	0.59	0.51	0.95
BMI (kg/m^2)	1.35±1.39	1.31±1.53	1.79±2.78	1.39±2.58	0.86	0.68	0.53	0.91
WC (cm)	2.53±4.11	2.75±4.61	4.24±7.44	4.42±8.00	0.74	0.95	0.37	0.48
Waist-hip ratio	0.00±0.03	0.00±0.03	0.02±0.05	0.03±0.07	0.90	0.67	0.36	0.29
CHOL (mmol/L)	0.43±0.99	0.24±1.12	0.09±1.10	0.38±0.92	0.23	0.40	0.20	0.62
TG (mmol/L)	0.21 (–0.14, 0.61)	0.10 (–0.20, 0.58)	–0.12 (–0.30, 0.34)	0.10 (–0.28, 0.97)	0.47	0.47	0.20	0.78
HDL-C (mmol/L)	0.00±0.18	–0.00±0.18	–0.02±0.12	–0.00±0.17	0.75	0.71	0.57	0.96
LDL-C (mmol/L)	0.35±0.77	0.21±0.86	0.12±0.67	0.25±0.64	0.27	0.57	0.25	0.88
FFA (mmol/L)	70.5 (–59.8, 170.0)	16.0 (–65.0, 146.0)	141.0 (–322.0, 354.0)	186.0 (77.5, 414.0)	0.49	0.16	0.76	0.002
FBG (mmol/L)	0.20 (–0.30, 0.50)	0.00 (–0.60, 0.60)	0.20 (–0.10, 1.30)	0.30 (–0.23, 1.20)	0.42	0.74	0.36	0.33
FINS (μU/mL)	2.63 (–0.41, 7.40)	2.72 (–0.27, 6.85)	2.88 (–0.37, 4.82)	1.65 (–1.57, 5.88)	0.99	0.58	0.75	0.26
HOMA-IR	0.65 (–0.11, 1.95)	0.71 (–0.14, 2.02)	0.86 (0.23, 1.97)	0.33 (–0.37, 1.48)	0.99	0.17	0.71	0.28
UA (μmol/L)	13.00±97.39	–3.67±112.02	15.00±78.04	–11.25±147.96	0.29	0.53	0.94	0.81
ALT (U/L)	9.00 (1.00, 44.00)	10.00 (0.50, 33.00)	10.00 (4.25, 80.00)	2.00 (–9.25, 65.75)	0.60	0.33	0.71	0.54
AST (U/L)	7.50 (3.00, 20.75)	6.00 (1.00, 22.50)	4.00 (0.00, 40.00)	5.00 (–3.25, 35.00)	0.44	0.68	0.42	0.42
GGT (U/L)	9.00 (2.00, 26.00)	7.50 (–1.00, 25.75)	8.00 (–1.00, 39.00)	9.50 (–1.75, 44.75)	0.27	0.90	0.70	0.68
ALP (U/L)	6.00 (–2.25, 11.25)	6.00 (–3.50, 13.00)	–7.00 (–10.00, 7.00)	–0.50 (–2.75, 6.75)	0.82	0.31	0.03	0.22
Albumin (g/L)	–0.46±2.97	0.43±2.27	0.28±3.51	0.77±2.87	0.03	0.68	0.37	0.62
TB (μmol/L)	–0.40 (–2.33, 2.13)	–0.60 (–3.35, 2.03)	2.75 (–1.08, 4.08)	–0.10 (–5.10, 9.00)	0.37	0.45	0.04	0.51
TBA (μmol/L)	0.55 (–0.20, 1.40)	0.70 (–0.20, 1.50)	–1.30 (–3.90, 0.40)	0.00 (–7.20, 3.30)	0.57	0.58	0.002	0.40
LFC (%)	5.97 (2.90, 13.26)	6.32 (2.88, 11.91)	4.72 (–1.51, 14.59)	4.72 (–2.56, 17.56)	0.97	0.97	0.42	0.73
LSM (kpa)	2.00 (1.18, 3.20)	2.35 (1.10, 3.10)	1.00 (0.55, 2.30)	–0.10 (–0.35, 0.08)	0.31	<0.001	0.04	<0.001
Regular exercise	74 (82.2)	79 (87.8)	13 (76.5)	14 (82.4)	0.41	1.00	1.00	0.98
Caloric restriction	48 (53.3)	41 (45.6)	5 (29.4)	3 (17.6)	0.32	0.80	0.09	0.13
Lipid-lowering drug	34 (37.8)	30 (33.3)	6 (35.3)	5 (29.4)	0.50	0.71	0.82	0.75
Hypoglycemic drug	6 (6.7)	7 (7.8)	0 (0.0)	0 (0.0)	0.79	–	0.59	0.51
Uric acid lowering drug	10 (11.1)	11 (12.2)	4 (23.5)	4 (23.5)	0.84	1.00	0.33	0.40
Intensified lifestyle intervention	31 (34.4)	25 (27.8)	2 (11.8)	4 (23.5)	0.31	0.65	0.06	0.95

Values are expressed as mean ± standard deviation, median (interquartile range) or n (%). MASLD, metabolic dysfunction-associated steatotic liver disease; LSM, liver stiffness measurement; 24w, 24 weeks; 48w, 48 weeks; BMI, body mass index; WC, waist circumference; CHOL, total cholesterol; TG, triglyceride; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; FFA, free fatty acid; FBG, fasting blood glucose; FINS, fasting insulin; HOMA-IR, homeostasis model assessment of insulin resistance; UA, uric acid; ALT, alanine aminotransferase; AST, aspartate aminotransferase; GGT, γ-glutamyl transpeptidase; ALP, alkaline phosphatase; TB, total bilirubin; TBA, total bile acid; LFC, liver fat content.

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Table S6 Subgroup baseline characteristics of MASLD patients with treatment response at 24 weeks, stratified by weight loss status

Characteristics	With MRI-PDFF response at 24 weeks (n=303)			With LSM response at 24 weeks (n=107)		
	Weight loss of <5.0% (n=169)	Weight loss of ≥5.0% (n=134)	P	Weight loss of <5.0% (n=59)	Weight loss of ≥5.0% (n=48)	P
Age (years)	43.8±14.7	39.6±12.7	0.009	43.9±11.5	39.9±10.9	0.07
Male	122 (72.2)	99 (73.9)	0.73	46 (78.0)	31 (64.6)	0.13
Weight (kg)	75.4±11.3	78.4±11.8	0.03	75.9±9.9	78.7±12.5	0.19
BMI (kg/m^2)	27.2±3.3	28.2±3.4	0.02	27.5±2.9	29.0±3.4	0.02
WC (cm)	91.1±7.5	92.5±8.6	0.14	92.3±6.4	93.4±8.8	0.46
Waist-hip ratio	0.90±0.04	0.90±0.05	0.54	0.91±0.04	0.91±0.06	0.97
CHOL (mmol/L)	4.92±1.02	5.31±1.10	0.002	5.08±0.99	4.99±0.81	0.61
TG (mmol/L)	1.66 (1.22, 2.23)	1.71 (1.18, 2.34)	0.77	1.83 (1.48, 2.27)	1.39 (1.18, 1.85)	0.005
HDL-C (mmol/L)	1.17±0.31	1.11±0.22	0.06	1.12±0.26	1.08±0.18	0.42
LDL-C (mmol/L)	3.05±0.78	3.42±0.76	<0.001	3.25±0.73	3.26±0.67	0.97
FFA (mmol/L)	500 (435, 655)	587 (449, 774)	0.008	495 (413, 599)	545 (441, 698)	0.35
FBG (mmol/L)	4.9 (4.6, 5.7)	5.0 (4.6, 5.8)	0.33	4.9 (4.7, 5.7)	5.2 (4.6, 6.1)	0.35
FINS (μU/mL)	11.2 (8.5, 14.5)	10.8 (8.6, 16.3)	0.83	12.8 (10.3, 16.2)	12.0 (8.5, 22.8)	0.91
HOMA-IR	2.65 (1.91, 3.70)	2.69 (1.79, 3.86)	0.69	2.83 (2.26, 3.98)	2.78 (1.78, 5.63)	0.57
UA (μmol/L)	422.9±82.6	445.5±119.9	0.07	408.7±91.3	399.0±100.2	0.60
ALT (U/L)	49.0 (28.5, 74.0)	56.0 (36.0, 93.0)	0.04	35.0 (28.0, 64.5)	43.0 (33.5, 101.0)	0.03
AST (U/L)	32.0 (25.0, 56.0)	37.5 (28.5, 55.0)	0.22	27.0 (22.0, 47.5)	39.5 (27.5, 63.0)	0.01
GGT (U/L)	46.0 (29.0, 70.0)	51.0 (32.0, 76.0)	0.14	36.0 (27.0, 54.5)	51.0 (31.0, 76.0)	0.1
ALP (U/L)	77.0 (62.0, 92.5)	78.5 (70.0, 88.5)	0.54	77.0 (64.5, 97.0)	78.0 (70.0, 85.0)	0.65
Albumin (g/L)	45.8±3.1	46.2±3.1	0.29	45.8±2.6	45.4±3.3	0.56
TB (μmol/L)	12.2 (9.5, 15.2)	13.8 (11.3, 18.1)	<0.001	12.1 (9.6, 14.7)	12.9 (11.1, 18.1)	0.02
TBA (μmol/L)	2.8 (1.8, 4.8)	2.4 (1.8, 3.3)	0.01	3.1 (2.1, 4.5)	2.6 (2.0, 3.2)	0.15
LFC (%)	16.1 (11.7, 22.4)	18.7 (11.9, 26.7)	0.053	14.6 (10.7, 19.3)	20.7 (11.5, 26.9)	0.01
LSM (kpa)	6.5 (5.6, 8.3)	7.2 (5.6, 7.9)	0.33	8.8 (7.8, 10.4)	7.8 (7.5, 8.4)	0.01
Hypertension	53 (31.4)	31 (23.1)	0.11	15 (25.4)	13 (27.1)	0.85
Diabetes mellitus	38 (22.5)	19 (14.2)	0.09	11 (18.6)	3 (6.3)	0.06
Smoking	17 (10.1)	9 (6.7)	0.29	3 (5.1)	1 (2.1)	0.76
Regular exercise	150 (88.8)	115 (85.8)	0.55	42 (71.2)	45 (93.8)	0.008
Caloric restriction	107 (63.3)	89 (66.4)	0.63	28 (47.5)	25 (52.1)	0.76
Lipid-lowering drug	62 (36.7)	40 (29.9)	0.22	27 (45.8)	13 (27.1)	0.04
Hypoglycemic drug	23 (13.6)	7 (5.2)	0.02	3 (5.1)	3 (6.3)	1.00
Uric acid lowering drug	28 (16.6)	17 (12.7)	0.31	7 (11.9)	7 (14.6)	0.70
Intensified lifestyle intervention	50 (29.6)	36 (26.9)	0.61	18 (30.5)	15 (31.3)	0.98

Values are expressed as mean ± standard deviation, median (interquartile range) or n (%). MASLD, metabolic dysfunction-associated steatotic liver disease; MRI-PDFF, magnetic resonance imaging proton density fat fraction; LSM, liver stiffness measurement; BMI, body mass index; WC, waist circumference; CHOL, total cholesterol; TG, triglyceride; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; FFA, free fatty acid; FBG, fasting blood glucose; FINS, fasting insulin; HOMA-IR, homeostasis model assessment of insulin resistance; UA, uric acid; ALT, alanine aminotransferase; AST, aspartate aminotransferase; GGT, γ-glutamyl transpeptidase; ALP, alkaline phosphatase; TB, total bilirubin; TBA, total bile acid; LFC, liver fat content.

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Table S7 Subgroup baseline characteristics of MASLD patients with treatment response at 24 weeks, stratified by baseline insulin resistance status

Characteristics	With MRI-PDFF response at 24 weeks (n=303)			With LSM response at 24 weeks (n=107)		
	Without insulin resistance (n=164)	With insulin resistance (n=139)	P	Without insulin resistance (n=42)	With insulin resistance (n=65)	P
Age (years)	42.9±13.2	40.8±14.7	0.18	42.2±10.4	42.1±12.0	0.97
Male	127 (77.4)	94 (67.6)	0.04	36 (85.7)	41 (63.9)	0.01
Weight (kg)	74.1±11.3	79.7±11.3	<0.001	75.1±9.8	78.5±11.8	0.12
BMI (kg/m^2)	26.6±2.9	29.0±3.4	<0.001	26.7±2.9	29.1±3.0	<0.001
WC (cm)	89.6±7.5	94.2±7.9	<0.001	90.1±6.3	94.5±7.9	0.003
Waist-hip ratio	0.90±0.04	0.91±0.05	0.02	0.90±0.03	0.92±0.06	0.07
CHOL (mmol/L)	5.33±1.11	4.80±0.98	<0.001	5.25±0.90	4.91±0.90	0.06
TG (mmol/L)	1.82 (1.31, 2.37)	1.60 (1.18, 1.98)	0.02	1.70 (1.32, 2.20)	1.69 (1.33, 2.12)	0.79
HDL-C (mmol/L)	1.17±0.29	1.11±0.25	0.04	1.09±0.23	1.11±0.23	0.74
LDL-C (mmol/L)	3.33±0.83	3.05±0.74	0.002	3.44±0.67	3.13±0.70	0.03
FFA (mmol/L)	521 (390, 745)	565 (450, 704)	0.14	499 (364, 692)	517 (441, 660)	0.699
FBG (mmol/L)	4.8 (4.5, 5.2)	5.4 (4.8, 6.5)	<0.001	4.7 (4.5, 5.0)	5.2 (4.8, 6.1)	<0.001
FINS (μU/mL)	8.9 (7.0, 10.7)	15.6 (12.8, 23.5)	<0.001	8.6 (7.4, 10.4)	17.2 (13.2, 21.7)	<0.001
HOMA-IR	1.9 (1.5, 2.4)	3.9 (3.0, 6.1)	<0.001	1.79 (1.59, 2.30)	3.94 (3.00, 5.63)	<0.001
UA (μmol/L)	426.6±88.8	441.5±113.6	0.20	400.5±101.2	406.9±91.6	0.74
ALT (U/L)	46.0 (28.5, 72.0)	58.0 (33.5, 99.0)	0.003	37.5 (29.0, 71.0)	40.0 (31.0, 101.0)	0.43
AST (U/L)	31.0 (25.0, 43.0)	44.0 (27.0, 71.5)	<0.001	31.0 (22.0, 44.0)	37.0 (24.0, 62.0)	0.04
GGT (U/L)	42.0 (28.5, 62.0)	52.5 (35.0, 76.0)	0.009	36.0 (27.0, 46.0)	51.0 (31.0, 76.0)	0.01
ALP (U/L)	75.0 (64.0, 89.5)	80.0 (70.0, 93.0)	0.02	76.0 (64.0, 84.0)	78.0 (71.0, 97.0)	0.02
Albumin (g/L)	46.4±3.2	45.5±3.1	0.01	46.0±3.0	45.4±2.9	0.26
TB (μmol/L)	13.7 (11.4, 16.1)	12.1 (9.2, 16.1)	0.01	12.8 (11.4, 17.2)	12.10 (9.60, 16.40)	0.12
TBA (μmol/L)	2.45 (1.80, 4.70)	2.7 (2.0, 3.9)	0.47	2.7 (1.5, 3.3)	3.10 (2.20, 4.50)	0.06
LFC (%)	14.5 (11.2, 19.9)	20.8 (13.6, 26.7)	<0.001	13.0 (8.4, 19.9)	19.7 (14.3, 27.0)	<0.001
LSM (kpa)	6.3 (5.2, 7.4)	7.8 (5.7, 8.6)	<0.001	7.6 (7.0, 9.0)	8.4 (7.8, 9.6)	0.009
Hypertension	38 (23.2)	46 (33.1)	0.06	5 (11.9)	23 (35.4)	0.007
Diabetes mellitus	25 (15.2)	32 (23.2)	0.08	6 (14.3)	8 (12.3)	0.79
Smoking	18 (11.0)	8 (5.9)	0.11	2 (4.8)	2 (3.1)	1.00
Regular exercise	141 (86.0)	124 (89.2)	0.44	32 (76.2)	55 (84.6)	0.25
Caloric restriction	110 (67.1)	86 (61.9)	0.40	18 (42.9)	35 (53.8)	0.23
Lipid-lowering drug	59 (36.0)	43 (31.2)	0.37	18 (42.9)	22 (33.8)	0.30
Hypoglycemic drug	10 (6.1)	20 (14.5)	0.02	1 (2.4)	5 (7.7)	0.48
Uric acid lowering drug	27 (16.5)	18 (13.0)	0.41	7 (16.7)	7 (10.8)	0.35
Intensified lifestyle intervention	36 (22.0)	50 (36.2)	0.005	6 (14.3)	27 (41.5)	0.004

Values are expressed as mean ± standard deviation, median (interquartile range) or n (%). MASLD, metabolic dysfunction-associated steatotic liver disease; MRI-PDFF, magnetic resonance imaging proton density fat fraction; LSM, liver stiffness measurement; BMI, body mass index; WC, waist circumference; CHOL, total cholesterol; TG, triglyceride; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; FFA, free fatty acid; FBG, fasting blood glucose; FINS, fasting insulin; HOMA-IR, homeostasis model assessment of insulin resistance; UA, uric acid; ALT, alanine aminotransferase; AST, aspartate aminotransferase; GGT, γ-glutamyl transpeptidase; ALP, alkaline phosphatase; TB, total bilirubin; TBA, total bile acid; LFC, liver fat content.

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Table S8 Subgroup baseline characteristics of MASLD patients with treatment response at 24 weeks, stratified by gender

Characteristics	With MRI-PDFF response at 24 weeks (n=303)			With LSM response at 24 weeks (n=107)		
	Male (n=221)	Female (n=82)	P	Male (n=77)	Female (n=30)	P
Age (years)	38.1±11.8	52.4±13.9	<0.001	40.5±10.5	46.4±12.6	0.02
Weight (kg)	79.9±9.9	67.9±11.5	<0.001	80.3±10.2	69.1±9.5	<0.001
BMI (kg/m^2)	27.6±3.1	27.7±4.0	0.87	28.1±3.2	28.4±3.3	0.71
WC (cm)	92.8±7.2	88.8±9.2	0.001	94.2±6.9	89.0±7.9	0.001
Waist-hip ratio	0.91±0.05	0.89±0.05	<0.001	0.92±0.04	0.89±0.05	0.001
CHOL (mmol/L)	5.09±1.14	5.06±0.92	0.80	5.10±0.97	4.90±0.74	0.30
TG (mmol/L)	1.72 (1.18, 2.35)	1.56 (1.23, 1.99)	0.10	1.71 (1.18, 2.27)	1.62 (1.34, 1.85)	0.87
HDL-C (mmol/L)	1.07±0.21	1.33±0.33	<0.001	1.06±0.21	1.19±0.25	0.008
LDL-C (mmol/L)	3.24±0.82	3.11±0.73	0.22	3.32±0.72	3.10±0.63	0.14
FFA (mmol/L)	512 (437, 739)	587 (480, 738)	0.10	497 (424, 715)	521 (434, 587)	0.72
FBG (mmol/L)	4.9 (4.5, 5.6)	5.4 (4.8, 5.7)	0.004	5.0 (4.6, 6.1)	5.1 (4.8, 5.7)	0.52
FINS (μU/mL)	10.6 (8.5, 14.1)	12.8 (10.3, 20.8)	0.003	11.8 (9.5, 17.2)	14.7 (12.8, 21.7)	0.02
HOMA-IR	2.46 (1.79, 3.34)	2.98 (2.34, 4.92)	0.002	2.69 (2.04, 3.91)	3.86 (2.73, 6.06)	0.03
UA (μmol/L)	451.7±97.8	383.4±92.6	<0.001	420.8±91.8	362.2±91.6	0.004
ALT (U/L)	51.0 (36.0, 81.0)	36.0 (22.0, 95.0)	0.03	47.0 (33.0, 81.0)	32.5 (21.0, 41.0)	0.002
AST (U/L)	36.0 (27.0, 50.0)	36.0 (22.0, 75.0)	0.71	37.0 (24.0, 51.0)	27.0 (21.0, 48.0)	0.06
GGT (U/L)	52.0 (32.0, 76.0)	41.5 (23.5, 61.0)	0.002	43.5 (31.5, 73.5)	31.0 (25.0, 51.0)	0.02
ALP (U/L)	78.0 (67.0, 91.0)	78.0 (67.0, 87.0)	0.42	78.0 (66.0, 90.0)	78.0 (73.0, 89.0)	0.38
Albumin (g/L)	46.8±2.8	43.6±2.7	<0.001	46.4±2.5	43.6±3.0	<0.001
TB (μmol/L)	13.2 (11.0, 16.4)	11.1 (9.5, 15.2)	0.001	12.4 (10.4, 17.5)	11.2 (9.5, 13.7)	0.051
TBA (μmol/L)	2.5 (1.8, 4.1)	2.6 (1.7, 4.5)	0.42	2.7 (2.3, 4.4)	2.1 (1.6, 3.1)	0.04
LFC (%)	16.1 (11.4, 22.4)	18.9 (12.2, 27.1)	0.01	16.2 (11.1, 22.2)	20.0 (11.3, 26.7)	0.13
LSM (kpa)	6.5 (5.6, 7.8)	7.6 (5.7, 8.6)	0.006	8.0 (7.6, 9.2)	7.8 (7.6, 11.6)	0.94
Hypertension	44 (19.9)	40 (48.8)	<0.001	18 (23.4)	10 (33.3)	0.29
Diabetes mellitus	31 (14.0)	26 (31.7)	0.001	12 (15.6)	2 (6.7)	0.35
Smoking	26 (11.8)	0 (0.0)	0.001	4 (5.2)	0 (0.0)	0.48
Regular exercise	194 (87.8)	71 (86.6)	0.70	61 (79.2)	26 (86.7)	0.54
Caloric restriction	131 (59.3)	65 (79.3)	0.005	32 (41.6)	21 (70.0)	0.009
Lipid-lowering drug	76 (34.4)	26 (31.7)	0.64	32 (41.6)	8 (26.7)	0.19
Hypoglycemic drug	11 (5.0)	19 (23.2)	<0.001	4 (5.2)	2 (6.7)	1.00
Uric acid lowering drug	34 (15.4)	11 (13.4)	0.78	14 (18.2)	0 (0.0)	0.03
Intensified lifestyle intervention	43 (19.5)	43 (52.4)	<0.001	16 (20.8)	17 (56.7)	<0.001

Values are expressed as mean ± standard deviation, median (interquartile range) or n (%). MASLD, metabolic dysfunction-associated steatotic liver disease; MRI-PDFF, magnetic resonance imaging proton density fat fraction; LSM, liver stiffness measurement; BMI, body mass index; WC, waist circumference; CHOL, total cholesterol; TG, triglyceride; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; FFA, free fatty acid; FBG, fasting blood glucose; FINS, fasting insulin; HOMA-IR, homeostasis model assessment of insulin resistance; UA, uric acid; ALT, alanine aminotransferase; AST, aspartate aminotransferase; GGT, γ-glutamyl transpeptidase; ALP, alkaline phosphatase; TB, total bilirubin; TBA, total bile acid; LFC, liver fat content.

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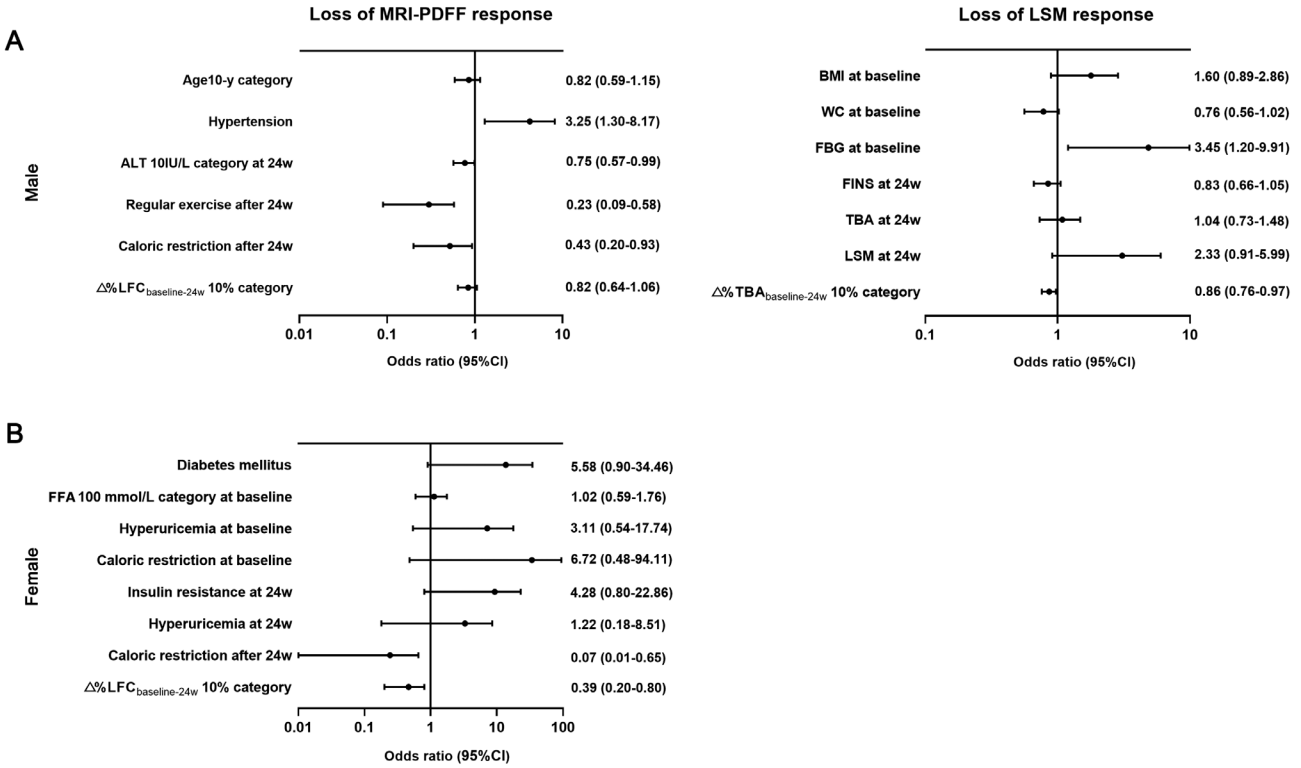

Figure S2 Multivariable logistic regression analysis for the loss of response in hepatic steatosis and fibrosis at 48 weeks in male (A) or female (B) MASLD patients. MRI-PDFF, magnetic resonance imaging-based proton density fat fraction; ALT, alanine aminotransferase; LFC, liver fat content; 95% CI, 95% confidence interval; 24w, 24 weeks; LSM, liver stiffness measurement; BMI, body mass index; WC, waist circumference; FBG, fasting blood glucose; FINS, fasting insulin; TBA, total bile acid; LSM, liver stiffness measurement; FFA, free fatty acid; MASLD, metabolic dysfunction-associated steatotic liver disease.

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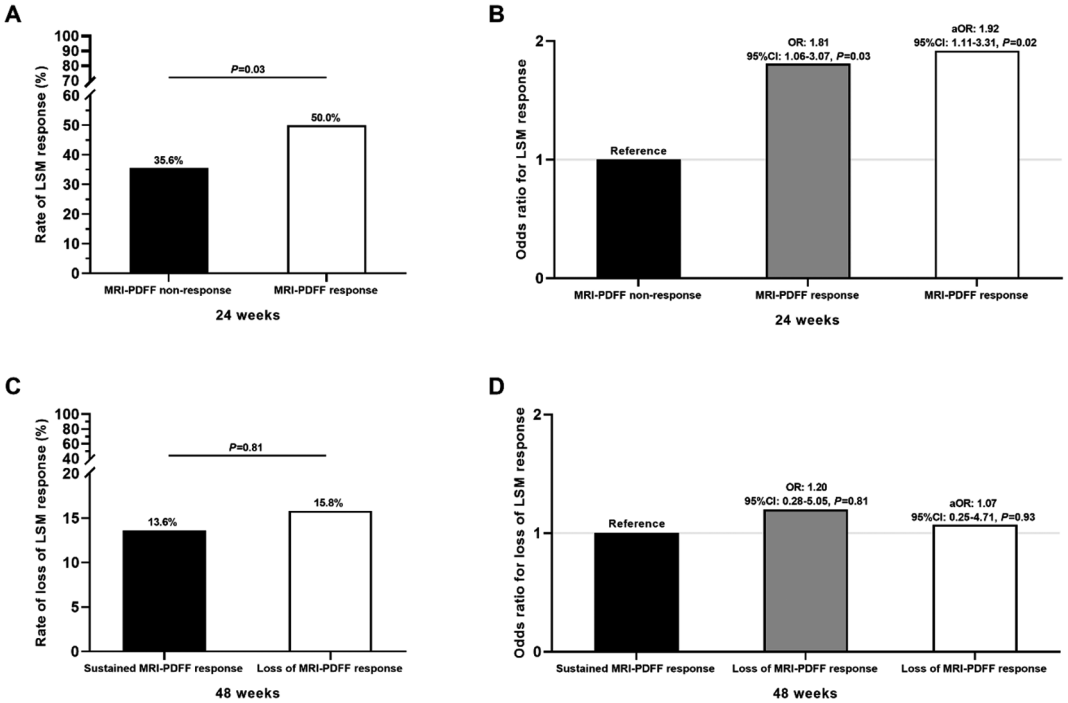

Figure S3 Association of MRI-PDFF response with LSM response in MASLD patients. At 24 weeks, the rate of LSM response between MASLD patients with MRI-PDFF non-response and response (A), and odds ratio of MRI-PDFF response for LSM response (B). At 48 weeks, the rate of loss of LSM response between MASLD patients with sustained MRI-PDFF response and loss of MRI-PDFF response (C), and odds ratio of loss of MRI-PDFF response for loss of LSM response (D). MRI-PDFF response and non-response are defined as ≥30% relative decline and <30% relative decline in MRI-PDFF. LSM response and non-response are defined as no or ≥1 stage decline from baseline in 2D-SWE. LSM, liver stiffness measurement; MRI-PDFF, magnetic resonance imaging proton density fat fraction; OR, odds ratio; 95% CI, 95% confidence interval; aOR, adjusted odds ratio (adjusted for sex and age); MASLD, metabolic dysfunction-associated steatotic liver disease.

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