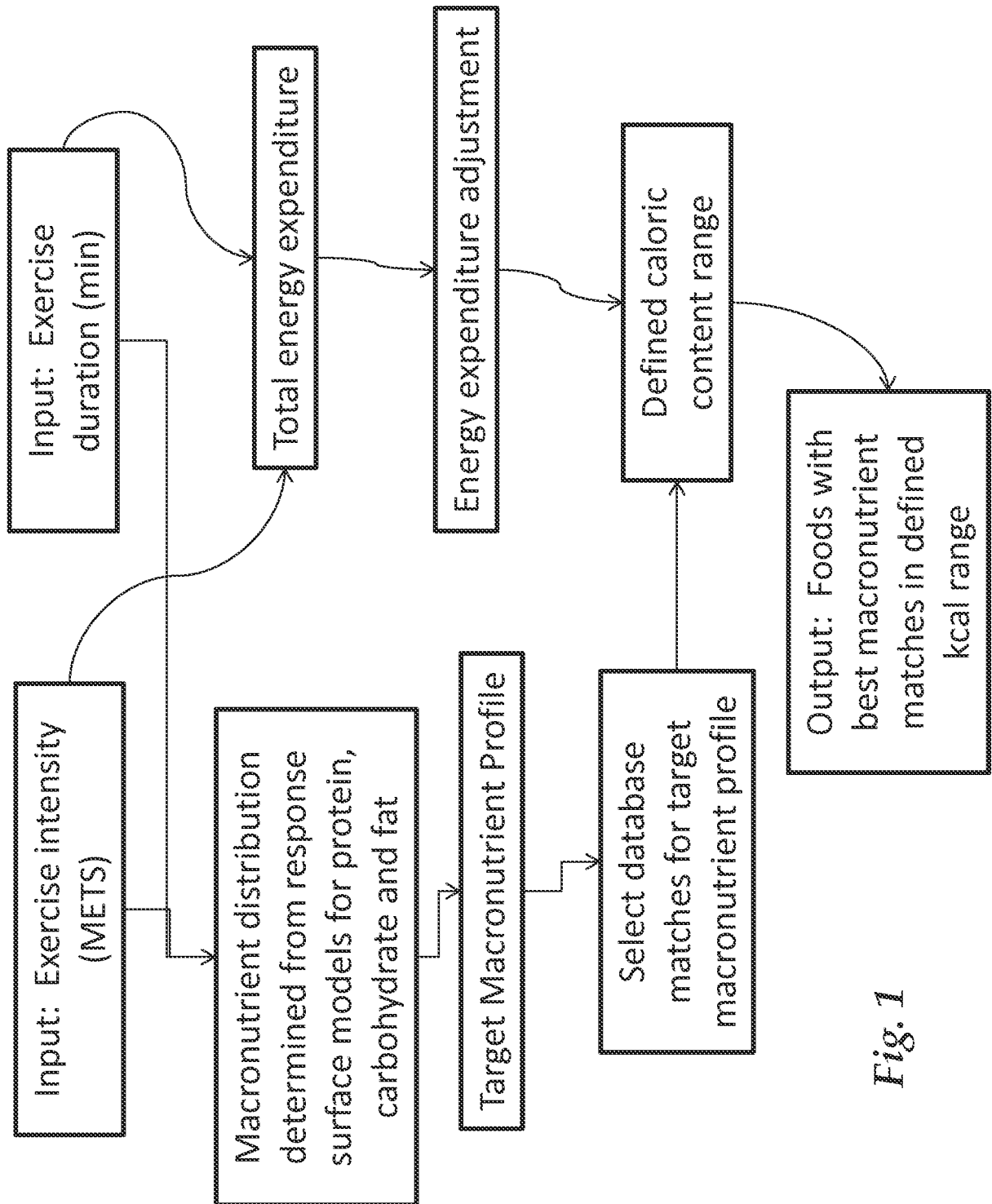


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*Fig. 1*

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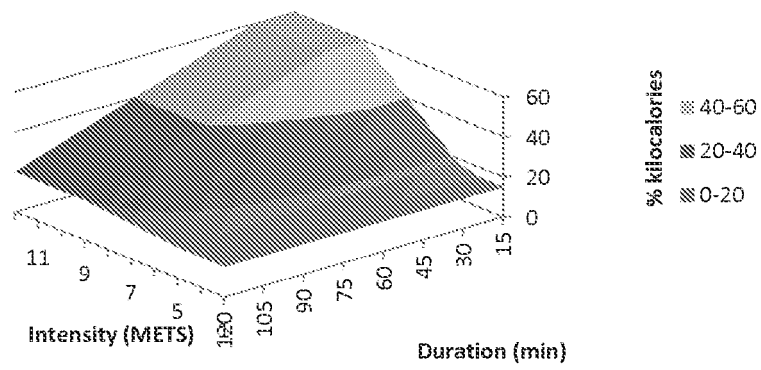


Fig. 2

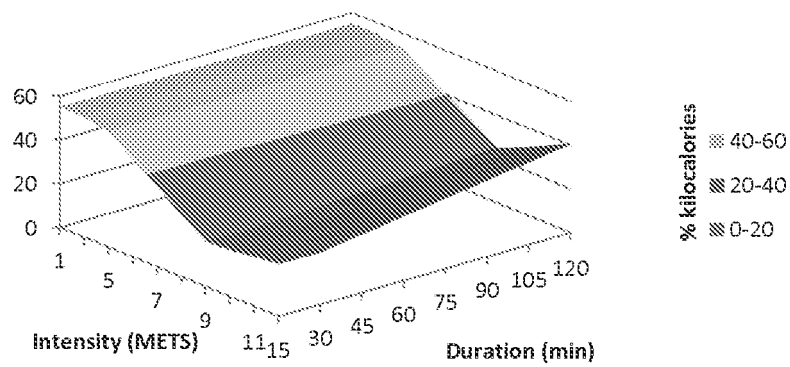


Fig. 3

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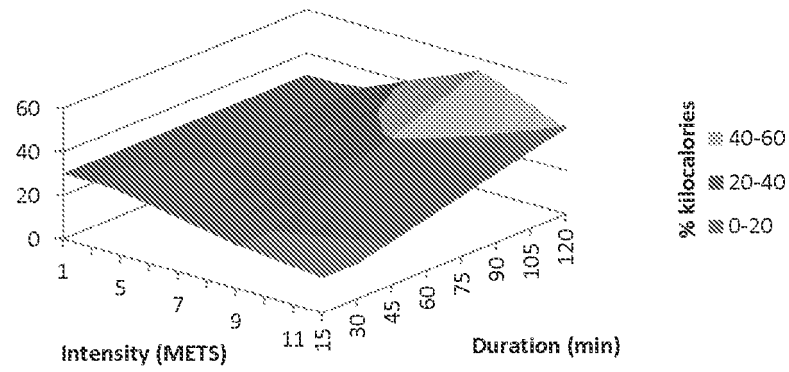


Fig. 4

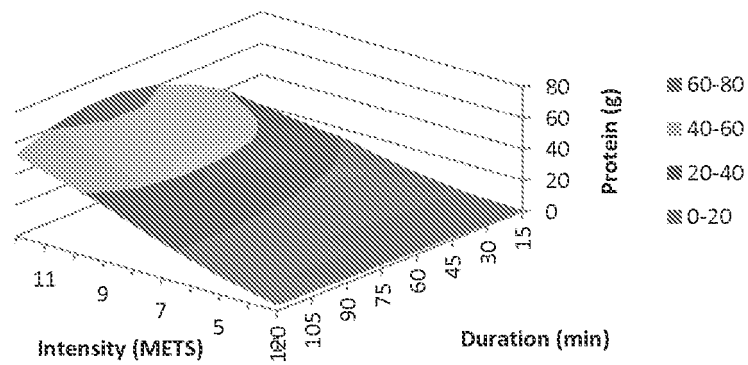


Fig. 5

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User weight (lb):	175							
Kcal deficit %	33%							
Type of Exercise	METS	Duration	kcal Reco.	Rounded kcal	Score Reco.	% Pro	% CHO	% Fat
Soccer	7	20	121	100	3	59.5	20.4	20.1
Mild Stretching	2.5	45	99	100	2	15.0	55.0	30.0
Water Aerobics	4	60	212	200	5	24.4	45.1	30.5
Backpacking	7	90	556	550	14	33.1	23.7	43.2
Mountain Biking	8.5	40	300	300	7	55.6	55.6	20.6
Walking	4	20	71	50	2	28.3	44.6	27.0
Running (8 min/mile)	12.5	20	220	200	6	60.0	60.0	20.0

Fig. 6

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Description	Serving (g)	kcal	Total Fat (g)	Total Carb (g)	Protein (g)	%Pro	%CHO	%Fat	SqDIF %Pro	SqDIF %CHO	SqDIF %Fat	Sum of Squares	50 kcal Incr.
Lowfat Cottage Cheese with Vitamin D and Calcium 2% Milkfat Small Curd	124	100	2.5	5	14	56.9	20.3	22.8	6.8	0.0	7.4	14.2	100
Lowfat Cottage Cheese - 2% Milkfat, Small Curd	122	100	2.5	5	14	56.9	20.3	22.8	6.8	0.0	7.4	14.2	100
Mussel, Blue, Raw	112.5	97	2.5	4	13	57.7	17.9	24.4	3.1	6.4	18.6	28.1	100
Lowfat Cottage Cheese 2% Milkfat	113	90	2.5	5	12	53.0	22.1	24.9	41.2	2.8	22.5	66.5	100
Lowfat Cottage Cheese with Calcium 1% Milkfat	124	80	1.5	6	12	56.1	28.1	15.8	11.0	58.5	18.8	88.2	100
Cottage Cheese, 2 % Low Fat	124	90	2.5	6	12	50.8	25.4	23.8	75.0	24.7	13.6	113.4	100
4 Pack Lowfat Cottage Cheese 2% Milkfat	113	80	2.5	5	11	50.9	23.1	26.0	73.8	7.3	34.7	115.7	100
Shrimp, Tasty Tuna Salad & Cucumber Chips	0	100	3	3	13	57.1	13.2	29.7	5.3	52.4	91.2	148.9	100
Lowfat Cottage Cheese 2% Milkfat Large Curd	119	90	2.5	6	11	48.6	26.5	24.9	117.4	37.2	22.5	177.1	100
Cottage Cheese, 1% Milkfat	113	81	1.2	3	14	71.2	15.6	13.2	137.6	23.0	48.1	208.7	100
Meatless Grilled Vegetable Burger	71	80	1	7	12	56.5	32.9	10.6	8.9	156.7	90.9	256.5	100
Clams, Raw w/ Liquid	114	84	1.1	3	14	72.9	14.7	12.5	180.2	33.1	58.8	272.1	100
Soy Protein Burgers Made with Organic Soy	71	100	2.5	9	13	47.1	32.6	20.4	153.7	147.8	0.1	301.5	100
Honey Roasted Chicken Breast Cuts	84	110	2	3	21	73.7	10.5	15.8	202.5	98.0	18.8	319.2	100
Tomato Basil Parmesan Veggie Pattie	71	90	1.5	9	13	51.2	35.5	13.3	67.6	226.3	46.5	340.5	100
Cottage Cheese, 2% Milkfat, Small Curd	113	90	2	8	11	46.8	34.0	19.1	160.0	185.5	0.9	346.4	100
Soy Protein Burger	71	120	5	6	15	46.5	18.6	34.9	167.5	3.3	217.9	388.8	100

Fig. 7

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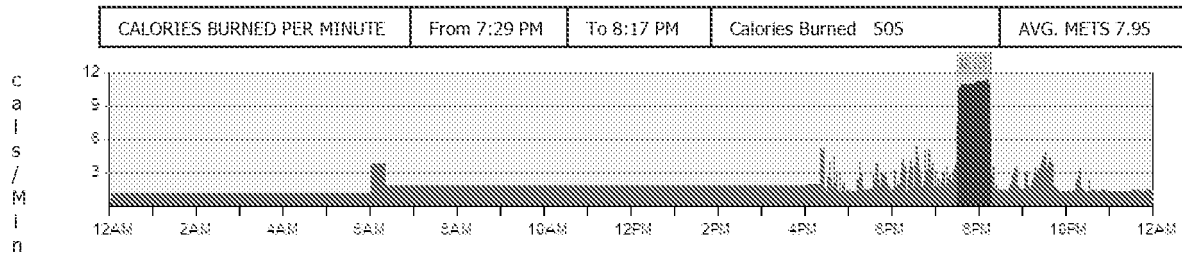


Fig. 8

Description	Serving (g)	kcal	Total Fat (g)	Total Carb (g)	Protein (g)	%Pro	%CHO	%Fat	SqDIF %Pro	SqDIF %CHO	SqDIF %Fat	Sum of Squares	50 kcal Incr.
Salad, Grilled Mediterranean Chicken Salad	1 Serving	360	9	29	38	43.6	33.2	23.2	71.4	149.8	14.4	235.5	350
Sandwich, Made-over Cheeseburgers	1 Serving	360	14	24	34	38.0	26.8	35.2	196.3	33.8	67.2	297.3	350
Chicken, Mozzarella Chicken & Rice Skillet	1 Serving	360	11	30	36	39.7	33.1	27.3	152.0	145.4	0.1	297.5	350
Chicken, Harvest Chicken & Vegetable Bake	1 Serving	340	10	29	31	37.6	35.2	27.3	208.1	200.3	0.1	408.4	350
Chicken, Spinach-Stuffed Chicken Breasts for Two	1 Serving	340	9	31	33	39.2	36.8	24.0	164.6	249.5	8.8	422.9	350
Chicken, Spicy Chicken Stir-Fry	1 Serving	350	14	25	29	33.9	29.2	36.8	327.0	67.9	96.9	491.7	350
Beef, Easy Layered Italian Meatloaf	1 Serving	370	12	34	32	34.4	36.6	29.0	309.5	242.1	4.1	555.7	350

Fig. 9

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Fig. 10

Description: Short	Serving (g)	kcal	Total Fat g	Total Carb g	Protein g	%Pro	%CHO	%Fat	SqDIF %Pro	SqDIF %CHO	SqDIF %Fat	Sum of Squares	50 kcal Incr.
Salad, Rustic Spinach Salad	1 Serving	300	13	16	31	40.7	21.0	38.4	41.4	5.0	17.6	64.0	300
Salad, Chicken Mango Spinach Salad	1 Serving	280	14	20	19	27.0	28.4	44.7	52.9	26.5	4.5	83.9	300
Meatloaf, Easy Pleasing Meatloaf Recipe	1 Serving	290	11	21	26	36.2	29.3	34.5	4.1	36.6	65.0	105.6	300
Breakfast, Morning Sausage and Veggie Strata	1 Serving	280	11	23	26	35.3	31.2	33.6	1.1	63.4	80.9	145.4	300
Salad, Stir-Fry Salad with Rice	1 Serving	310	11	23	28	37.0	30.4	32.7	7.5	51.0	97.7	156.2	300
Chicken, Kung Pao, South Beach Living	292	300	11	18	32	42.8	24.1	33.1	73.7	0.7	89.2	163.7	300
Chicken Bacon Ranch Flatbread Melt	141	320	13	29	22	27.4	36.1	36.4	46.3	166.8	37.3	250.4	300

Fig. 11

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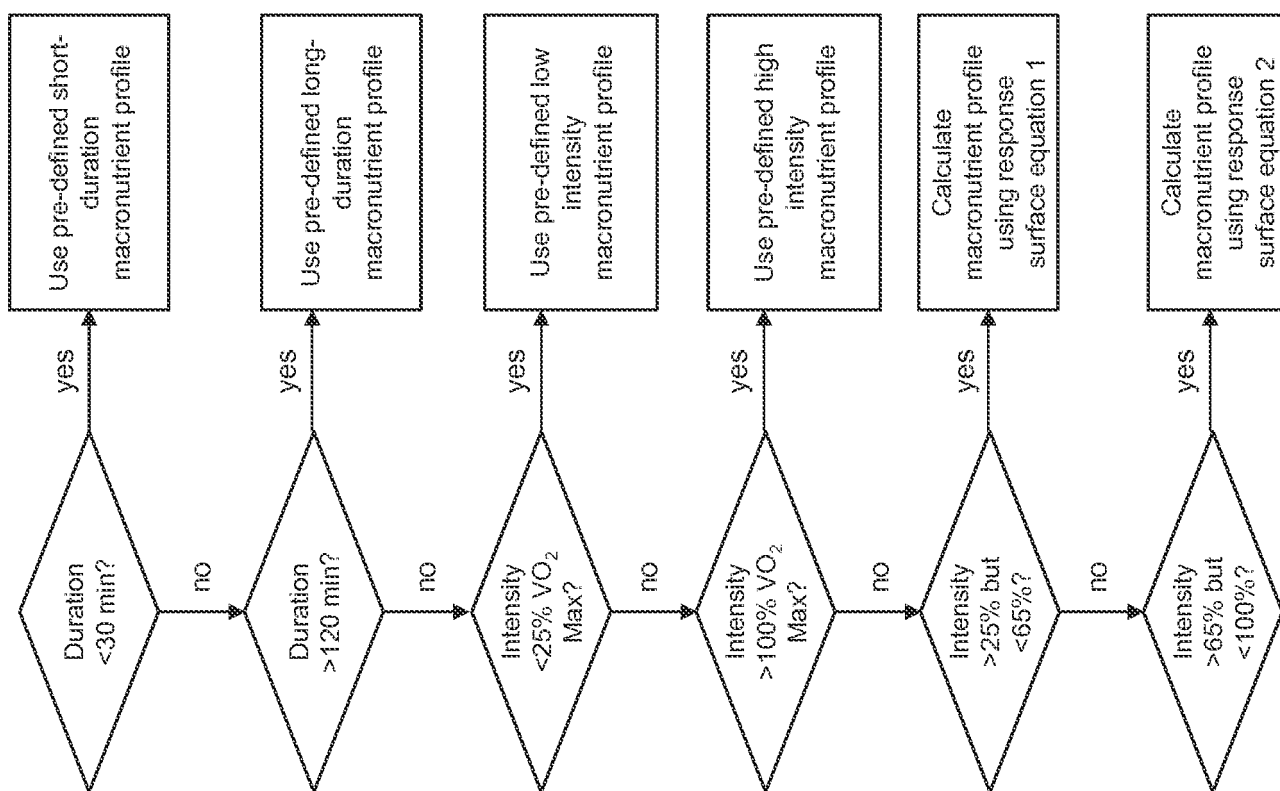
*Fig. 12*

Fig. 13

Example for calculating %CHO by linear interpolation, based on the following table:

	METS (x)	Duration (y)	
		30	120
		% CHO	% CHO
>100%	10.85	25	45
65%	7.0525	20	25
25%	2.7125	55	55
Rest	1.00	55	55

In equations 1 and 2 below, let x = METS and y = Duration

Equation 1: If $2.7127 \leq x \leq 7.0525$ and $30 \leq y \leq 120$

$$\%CHO = \frac{(7.0525 - x) \times [(120 - y) \times 55 + (y - 30) \times 25] + (x - 2.7125) \times [(120 - y) \times 20 + (y - 30) \times 25]}{(7.0525 - 2.7125) \times (120 - 30)}$$

Equation 2: If $7.0525 \leq x \leq 10.85$ and $30 \leq y \leq 120$

$$\%CHO = \frac{(10.85 - x) \times [(120 - y) \times 20 + (y - 30) \times 25] + (x - 7.0525) \times [(120 - y) \times 25 + (y - 30) \times 45]}{(10.85 - 7.0525) \times (120 - 30)}$$

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Fig. 14

Alternate types of equations for calculating %CHO (or %Pro or %Fat):

Equation 3: Quadratic response surface model

$$\%CHO = \beta_0 + \beta_1x + \beta_2y + \beta_{12}xy + \beta_{11}x^2 + \beta_{22}y^2$$

Equation 4: General response surface model

$$\%CHO = \beta_0 + \beta_1f_1(x) + \beta_2f_2(y) + \beta_3f_3(x, y) + \beta_4f_4(x, y) + \beta_5f_5(x, y) \dots$$

Where $f_1(x)$, $f_2(y)$, $f_3(x, y)$, $f_4(x, y)$, $f_5(x, y)$ etc. can be chosen from polynomial, or transcendental, or trigonometric functions, or other smooth functions of x and y , and the β coefficients can be any appropriate numeric constants

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Fig. 15

[illegible]

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Fig. 16

[illegible]

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Fig. 17A

	C	D	E	F	G	H	I	J	K	L	M	N	O	P
50														
51	Macronutrient Distribution Response Surface Calculation													
52														
53	User body weight (lb):			172		40 year-old female			% kcal Distribution Recommended					
54	Kcal deficit %			33%										
55	Type of Exercise	METS	Duration	[METS]	[Duration]	[METS* Duration]	kcal Reco.	Score Reco	% Pro	% CHO	% Fat	Total		g protein recommended
56	Test	1	15	2.7125	30	81.375	13	0	15.0	55.0	30.0	100.0		0.487611798
57		2	15	2.7125	30	81.375	26	1	15.0	55.0	30.0	100.0		0.975223596
58		3	15	3	30	90	39	1	18.0	52.7	29.3	100.0		1.753548648
59		4	15	4	30	120	52	1	28.3	44.6	27.0	100.0		3.68630025
60		5	15	5	30	150	65	2	38.7	36.6	24.7	100.0		6.293169544
61		6	15	6	30	180	78	2	49.1	28.5	22.4	100.0		9.574156831
62		7	15	7	30	210	91	2	59.5	20.4	20.1	100.0		13.52926121
63		8	15	8	30	240	104	3	60.0	21.2	18.8	100.0		15.60357753
64		9	15	9	30	270	117	3	60.0	22.6	17.4	100.0		17.55402472
65		10	15	10	30	300	130	3	60.0	23.9	16.1	100.0		19.50447191
66		11	15	10.85	30	325.5	143	4	60.0	25.0	15.0	100.0		21.4549191
67		12	15	10.85	30	325.5	156	4	60.0	25.0	15.0	100.0		23.40536629
68		1	15	2.7125	30	81.375	13	0	15.0	55.0	30.0	100.0		0.487611798
69		2	15	2.7125	30	81.375	26	1	15.0	55.0	30.0	100.0		0.975223596
70		3	30	3	30	90	78	2	18.0	52.7	29.3	100.0		3.507097296
71		4	30	4	30	120	104	3	28.3	44.6	27.0	100.0		7.3726005
72		5	30	5	30	150	130	3	38.7	36.6	24.7	100.0		12.58633909
73		6	30	6	30	180	156	4	49.1	28.5	22.4	100.0		19.14831306
74		7	30	7	30	210	182	5	59.5	20.4	20.1	100.0		27.05852242
75		8	30	8	30	240	208	5	60.0	21.2	18.8	100.0		31.20715506
76		9	30	9	30	270	234	6	60.0	22.6	17.4	100.0		35.10804944
77		10	30	10	30	300	260	7	60.0	23.9	16.1	100.0		39.00894382
78		11	30	10.85	30	325.5	286	7	60.0	25.0	15.0	100.0		42.9092382
79		12	30	10.85	30	325.5	312	8	60.0	25.0	15.0	100.0		46.81073258
80		1	45	2.7125	45	122.0625	39	1	15.0	55.0	30.0	100.0		1.462835393
81		2	45	2.7125	45	122.0625	78	2	15.0	55.0	30.0	100.0		2.925670787
82		3	45	3	45	135	117	3	17.5	52.7	29.7	100.0		5.131440054
83		4	45	4	45	180	156	4	26.4	44.9	28.8	100.0		10.2874105
84		5	45	5	45	225	195	5	35.2	37.0	27.8	100.0		17.16612616
85		6	45	6	45	270	234	6	44.0	29.1	26.8	100.0		25.76758704
86		7	45	7	45	315	273	7	52.9	21.2	25.9	100.0		36.09179313
87		8	45	8	45	360	312	8	53.3	22.7	24.0	100.0		41.60954097
88		9	45	9	45	405	351	9	53.3	24.7	22.0	100.0		46.81073258
89		10	45	10	45	450	390	10	53.3	26.7	20.0	100.0		52.01192509
90		11	45	10.85	45	488.25	429	11	53.3	28.3	18.3	100.0		57.2131176
91		12	45	10.85	45	488.25	468	12	53.3	28.3	18.3	100.0		62.41431011
92		1	60	2.7125	60	162.75	52	1	15.0	55.0	30.0	100.0		1.950447191
93		2	60	2.7125	60	162.75	104	3	15.0	55.0	30.0	100.0		3.900894382
94		3	60	3	60	180	156	4	17.1	52.8	30.1	100.0		6.66964555
95		4	60	4	60	240	208	5	24.4	45.1	30.5	100.0		12.68789367
96		5	60	5	60	300	260	7	31.7	37.4	30.9	100.0		20.60365826
97		6	60	6	60	360	312	8	39.0	29.8	31.3	100.0		30.41693932
98		7	60	7	60	420	364	9	46.3	22.1	31.6	100.0		42.12773684
99		8	60	8	60	480	416	10	46.7	24.2	29.2	100.0		48.54446342
100		9	60	9	60	540	468	12	46.7	26.8	26.5	100.0		54.61252135
101		10	60	10	60	600	520	13	46.7	29.4	23.9	100.0		60.68657928
102		11	60	10.85	60	651	572	14	46.7	31.7	21.7	100.0		66.7486372
103		12	60	10.85	60	651	624	16	46.7	31.7	21.7	100.0		72.81669513
104		1	75	2.7125	75	203.4375	65	2	15.0	55.0	30.0	100.0		2.438058989
105		2	75	2.7125	75	203.4375	130	3	15.0	55.0	30.0	100.0		4.876117978
106		3	75	3	75	225	195	5	16.7	52.8	30.5	100.0		8.121713786
107		4	75	4	75	300	260	7	22.4	45.4	32.2	100.0		14.57405001
108		5	75	5	75	375	325	8	28.2	37.9	34.0	100.0		22.89893538
109		6	75	6	75	450	390	10	33.9	30.4	35.7	100.0		33.09636989
110		7	75	7	75	525	455	11	39.7	22.9	37.4	100.0		45.16635355
111		8	75	8	75	600	520	13	40.0	25.6	34.4	100.0		52.01192509
112		9	75	9	75	675	585	15	40.0	28.9	31.1	100.0		58.51341573
113		10	75	10	75	750	650	16	40.0	32.2	27.8	100.0		65.01490637
114		11	75	10.85	75	813.75	715	18	40.0	35.0	25.0	100.0		71.516397
115		12	75	10.85	75	813.75	780	20	40.0	35.0	25.0	100.0		78.01788764
116		1	90	2.7125	90	244.125	78	2	15.0	55.0	30.0	100.0		2.925670787
117		2	90	2.7125	90	244.125	156	4	15.0	55.0	30.0	100.0		5.851341573

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Fig. 17B

	C	D	E	F	G	H	I	J	K	L	M	N	O	P
118		3	90	3	90	270	234	6	16.2	52.9	30.9	100.0		9.487644761
119		4	90	4	90	360	312	8	20.4	45.6	34.0	100.0		15.94587951
120		5	90	5	90	450	390	10	24.7	38.3	37.0	100.0		24.05195751
121		6	90	6	90	540	468	12	28.9	31.0	40.1	100.0		33.80587876
122		7	90	7	90	630	546	14	33.1	23.7	43.2	100.0		45.20764326
123		8	90	8	90	720	624	16	33.3	27.1	39.6	100.0		52.01192509
124		9	90	9	90	810	702	18	33.3	31.0	35.6	100.0		58.51341573
125		10	90	10	90	900	780	20	33.3	35.0	31.7	100.0		65.01490637
126		11	90	10.85	90	976.5	858	21	33.3	38.3	28.3	100.0		71.516397
127		12	90	10.85	90	976.5	936	23	33.3	38.3	28.3	100.0		78.01788764
128		1	105	2.7125	105	284.8125	91	2	15.0	55.0	30.0	100.0		3.413282584
129		2	105	2.7125	105	284.8125	182	5	15.0	55.0	30.0	100.0		6.826565169
130		3	105	3	105	315	273	7	15.8	53.0	31.3	100.0		10.76743847
131		4	105	4	105	420	364	9	18.5	45.9	35.7	100.0		16.80338218
132		5	105	5	105	525	455	11	21.1	38.7	40.1	100.0		24.06272467
133		6	105	6	105	630	546	14	23.8	31.6	44.5	100.0		32.54546593
134		7	105	7	105	735	637	16	26.5	24.5	48.9	100.0		42.25160597
135		8	105	8	105	840	728	18	26.7	28.5	44.8	100.0		48.54446342
136		9	105	9	105	945	819	20	26.7	33.1	40.2	100.0		54.61252135
137		10	105	10	105	1050	910	23	26.7	37.7	35.6	100.0		60.68057928
138		11	105	10.85	105	1139.25	1001	25	26.7	41.7	31.7	100.0		66.7486372
139		12	105	10.85	105	1139.25	1092	27	26.7	41.7	31.7	100.0		72.81669513
140		1	120	2.7125	120	325.5	104	3	15.0	55.0	30.0	100.0		3.900894382
141		2	120	2.7125	120	325.5	208	5	15.0	55.0	30.0	100.0		7.801788764
142		3	120	3	120	360	312	8	15.3	53.0	31.7	100.0		11.96109493
143		4	120	4	120	480	416	10	16.5	46.1	37.4	100.0		17.14655802
144		5	120	5	120	600	520	13	17.6	39.2	43.2	100.0		22.93123685
145		6	120	6	120	720	624	16	18.8	32.3	48.9	100.0		29.3151314
146		7	120	7	120	840	728	18	19.9	25.4	54.7	100.0		36.29824168
147		8	120	8	120	960	832	21	20.0	30.0	50.0	100.0		41.60954007
148		9	120	9	120	1080	936	23	20.0	35.3	44.7	100.0		46.81073258
149		10	120	10	120	1200	1040	26	20.0	40.5	39.5	100.0		52.01192509
150		11	120	10.85	120	1302	1144	29	20.0	45.0	35.0	100.0		57.2131176
151		12	120	10.85	120	1302	1248	31	20.0	45.0	35.0	100.0		62.41431011

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Fig. 18

	A	D	E	F	G	H	I	J	K	L	M	N	O
180													
181	Calculation of Caloric Contents and Macronutrient Distributions of Recommended Foods												
182													
183	User weight (lb):	175											
184	Kcal deficit %	33%											
185	Type of Exercise	METS	Duration	[METS]	[Duration]	[METS* Duration]	kcal Reco.	50 kcal incr.	Score Reco	% Pro	% CHO	% Fat	Total
186	Soccer	7	20	7	30	210	121	100	3	59.5	20.4	20.1	100.0
187	Mild Stretching	2.5	45	2.7125	45	122.0625	99	100	2	15.0	55.0	30.0	100.0
188	Water Aerobics	4	60	4	60	240	212	200	5	24.4	45.1	30.5	100.0
189	Backpacking	7	90	7	90	630	556	550	14	33.1	23.7	43.2	100.0
190	Mountain Biking	8.5	40	7.0525	40	282.1	300	300	7	55.6	20.6	23.9	100.0
191	Walking	4	20	4	30	120	71	50	2	28.3	44.6	27.0	100.0
192	Running (8 min/mile)	12.5	20	7.0525	30	211.575	220	200	6	60.0	20.0	20.0	100.0
193	Jogging BM Fit	7.95	48	7.0525	48	338.52	337	350	8	52.0	21.0	27.0	100.0
194	Mt Biking (RunKeeper)	8.5	88	7.0525	88	620.62	322	300	8	34.2	23.2	42.6	100.0