



Crosswalk GETP 10-11

Comprehensive outline of updates from the ACSM Guidelines for Exercise Testing and Prescription 10th to 11th editions. This faculty resource provides specific, by-chapter changes.

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KEY

FOR FACULTY

BLUE	FYI for candidates
ORANGE	Process change/Substantial update

Chapters 1-5

Chapter	GETP 11 Page #	GETP 10	GETP 11	Comments
1	1		x	Definition of Physical Fitness has been modified from GETP10
1	5		x	GETP 11 reflects 2018 PAGA: "A single bout of moderate/vigorous exercise can result in health benefits."
1	5		x	Box 1.3 added statement "move more sit less"
1	6			Box 1.3 in GETP 11 reflects 2018 PAGA recommendations related to sedentary behavior.
1	7		x	Updated prevalence data regarding sedentary behavior in the US, not seen in GETP10
1	8			Table 1.2 in GETP11 reflects 2018 PAGA; evidence for dose response relationship; notes specific cancers and mental health diagnoses
1	12			Less emphasis on specific physiological adaptations in Exercise Related Health Benefits of Improving MF
1	16			Risks of Cardiac Event during CR mentions data on home-based CR with limited, no data on any greater risk to the patient in terms of cardiac events
2	24		x	PARQ no longer referenced; rather the PARQ+
2	40,41		x	Box 2.2 non-exercise test findings integrated into categories instead of separated
2	47		x	Obesity renamed BMI/waist girth; Hypertension renamed blood pressure; Dyslipidemia renamed lipids; DM renamed blood glucose
2	50		x	Table 2.3 updated BP guidelines. AHA/ACC AND JNC guidelines both provided.
2	51		x	Table 2.4 updated and significantly different; no total cholesterol desired values
2	52		x	Table 2.5 new information; Atherosclerotic CV risk table added
3	NA		x	Ch 4 of GETP10 covered in Ch 3 of GETP11
3	60		x	Information on sex-based norms for fitness testing of transgender individuals
3	63		x	Information is provided regarding BMI of individuals of Asian descent
3	72		x	Information on DXA, BIA and ultrasound as measures of BF included and expanded; not in GETP10
3	85		x	Table 3.7 table of summary of common Step Tests added
3	91		x	Table 3.9 in MF section Cycle Ergometer- based CR fitness classification by age and sex
3	95		x	Table 3.10 results reported in table as nominal rather than categorical fitness; categories include grip strength
3	101		x	Table 3.14 added fitness category for Countermovement Vertical Jump
3	103		x	Table 3.15 added ROM in degrees at selected joints by Age & Sex
3	102		x	Sit and reach removed. Updated information.
3	103-105		x	New section on balance added

Chapters 1-5

4		x		Box 5.1 eliminated on evidence-based information regarding Clinical Ex testing
4	117		x	Table 4.2 added recommendation for patients requiring Personal MD Supervision based upon clinical safety criteria
4	128		x	Box 4.4 added Considerations for the addition of Adjunctive Imaging to Clinical testing
4	132		x	Box 4.5 added Examples of regression Equ for Age-Predicted Normal Std for Ex Capacity
5	NA	x		Ch 6 of GETP10 is Ch 5 of GETP11
5	142		x	Back to FITT; secondary mention of VP
5	147		x	Box 5.1 Examples of Interval Training programs/protocols
5	149		x	HR max 220--Age no longer recommended. Use one of the alternatives provided.
5	150		x	New concept: 2 min of moderate exercise = 1 min of vigorous

Chapters 6-7

Chapter	GETP 11 Page #	GETP 10	GETP 11	Comments
6	167	Children and adolescents = 6–17 yr	Children and adolescents = 6–19 yr	Age change
6	167	NA	The 2018 Physical Activity Guidelines for Americans recommends estimating youth PA intensity relatively, using a perceived effort scale from 0 (sitting) to 10 (highest effort possible), with moderate intensity at a 5 or 6, and vigorous intensity starting at a 7 or 8	New information
6	167	Expert panels from the National Heart, Lung, and Blood Institute and the American Academy of Pediatrics also recommend that children limit total entertainment screen time to <2 hours per day	Expert panels from the National Heart, Lung, and Blood Institute (NHLBI) and the American Academy of Pediatrics (AAP) have recommended that children and adolescents limit total recreational screen time to <2 h · d ⁻¹ . Guidelines for young children are lower, including <1 h · d ⁻¹ of screen media for 2-5 year olds and none for infants <18 months old	Updated information
6	NA	Though not designed to capture PA intensities, pedometers provide an unobtrusive and low-cost option for estimating daily locomotor activity, and recent research using national databases from Canada and the U.S have translated the 60-min/d guideline into a step/d recommendation of 9,000-12,000 steps.		Removed
6	170	NA	Variable with emphasis on activities that produce moderate to high bone loading through impact or muscle force production	New information added
6	170-171	NA	Aerobic, Resistance and Bone Strengthening Exercise short paragraphs were added	New information added
NA	NA	NA	Vigorous-intensity PA can then be gradually added at least 3 d · wk ⁻¹ .	Statement removed from the Special Consideration section
6	172	NA	5 classifications of low back pain added	New information added
6	173	NA	It is more accurate to state that 90% of patients with LBP who receive primary care will have stopped consulting with symptoms within three months. However, most individuals will still be experiencing LBP and related disability one year after consultation.	New information added
6	173	NA	Current research shows that following an acute bout of low back pain, early access (within 3 weeks of acute onset) to physical therapy results in dramatic reductions in the need for advanced imaging, opioid use, injections, and surgery, as well as decreased disability.	New information added
6	174	NA	Box 6.2 New	New information added
6	177	NA	Exercises such as yoga, pilates, core stability all have shown to be effective in interventions for LBP. However, the research is equally clear that no single intervention is superior to the other. Therefore, the choice of exercise should fundamentally be driven by client preference and practitioner expertise	New information added to Special Consideration section

Chapters 6-7

6	181	NA	The 400-m usual-pace walk test has also been proven reliable as an assessment of mobility status in older adults with functional limitations (108). More recently there is an interest in measuring the rate of force development in older adults as a means of determining muscle power. See Table 6.4 for additional criterion-referenced fitness standards for maintaining physical independence in older adults.	New information added
6	182	NA	Table 6.4 New	New information added
6	183	NA	More recently, the Lifestyle Interventions and Independence for Elders (LIFE) study used the Borg scale of self-perceived exertion (113) to assess intensity of activity. The Borg scale ranges from 6 to 20, and LIFE participants were asked to walk at a self-perceived intensity of 13 (“somewhat hard”), while lower extremity muscle strengthening exercises were performed at an intensity of 15 to 16.	New information added
6	184	NA	Power training: 6–10 repetitions with high velocity	New information added to FITT Table
6	183-185	NA	The following section "Neuromotor (Balance) Exercises and Power Weight Training for Frequent Fallers or Individuals with Mobility Limitations" has been rewritten to apply the 2018 PAGAC.	Information has been updated
6	188	If a maximal exercise test is warranted, the test should be performed with physician supervision after the woman has been medically evaluated for contraindications to exercise.	If a <i>submaximal</i> exercise test is warranted, the test should be performed with physician supervision after the woman has been medically evaluated for contraindications to exercise.	Test classification change
6	188	NA	In the absence of obstetric or medical complications, the American College of Obstetricians and Gynecologists recommend 20-30 min/day of moderate intensity aerobic exercise on most or all days of the week during pregnancy (Table 6.6).	New information added
6	189	FITT Table removed	Table 6.6 added	New information
NA	NA	Table 7.5 removed	Removed	NA
6	191	Exercise Training Considerations section name changed	Exercise Frequency, Duration, and Intensity section updated	New information
6	192	NA	New subsection-Exercise Types to Consider	New information
6	192	NA	New subsection-Exercise Types to Avoid	New information
6	193	NA	Special Considerations Section revised	New information
6	193	NA	New subsection-Exercise During Postpartum	New information
7	202	For most individuals, the effects of altitude appear at and above 1,200 m (3,937 ft). In this section, low altitude refers to locations <1,200 m (3,937 ft), moderate altitude to locations between 1,200–2,400 m (3,937 and 7,874 ft), high altitude between 2,400–4,000 m (7,874 and 13,123 ft), and very high altitude >4,000 m (13,123 ft)	By definition, altitude is broken into the following elevation bands: low altitude (0m to 1,500m; 0 – 4,921 ft), high altitude (1,500m to 3,500m; 4,921-11,483 ft), very high altitude (3,500m to 5,500m; 11,483-18,045 ft), and extreme altitude (5,500m to 8,850m; 18,045-29,035 ft)	Updated Information

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7	202	NA	Practically, as the athlete exhales greater and greater levels of CO ₂ , the kidneys remove bicarbonate to maintain pH of the blood, which can lead to increased risk of dehydration as a function of increased respiration. Therefore, exercising at altitude requires an increased fluid intake beyond the normal athletic requirements.	New comment about exercise in altitude and hydration
7	203	NA	Graded ascent added to the discussion under "altitude acclimation"	New information
NA	NA	Box 8.1 removed and was added to the text	NA	NA
7	204	Rapid Ascent section was completely rewritten	Rapid Ascent section rewritten	Section rewritten
7	205	NA	Hrmax information was added to "assessing Individual Altitude Acclimatization Status" section	Added information
7	205-207	NA	New sections added: " Medical Considerations: Altitude Illnesses & Preexisting Conditions" and "Prevention and Treatment of Altitude Sickness"	Added information
7	208	NA	"monitor weather" and "hydration" bullet points added	Added information
7	212-213	NA	New section " Cardiac and Respiratory Considerations"	New information
7	214	NA	Exercise Prescription section rewritten	Section rewritten
7	221	NA	"Heat acclimatization" bullet point was adjusted and new information added	New information
7	221	NA	"Diet/nutrition" bullet point added	New information
7	203	NA	Table 7.1 altitude classification was adjusted	Classification adjusted
7	210	NA	Table 7.2 is new	New information

Chapters 8-9

Chapter	GETP 11 Page #	GETP 10	GETP 11	Comments
8	226		X	Pulmonary rehab insurance reimbursement information added
8	227		x	Box 8.1 includes pulmonary disease
8	230		x	Educational component of cardiac rehab included
8	232		X	Table 8.1 is new (new text about referral also on page 231)
8	231	X		Box 9.5 from GETP10 eliminated
8	232		x	Updated conditions for which outpatient CR is recommended
8	235		x	Changes to Flexibility FITT time recommendations
8	234		X	New exercise training considerations
8	237		X	6 minute walk test or other submaximal tests now put forth as an option for cardiac patients when no symptom-limited GXT is available
8	237		X	Lifestyle PA now reflect 2018 PAGA report
8	237		X	Updated statistics on heart failure
8	238		X	Exercise testing - change in exercise tolerance statement
8	239		X	updated FITT aerobic intensity and time recommendations
8	239		X	FITT resistance time recommendations changed from 2 sets to 1-2 sets
8	239		X	Training Considerations - base on peak HR added (bullet point 1); more details on HITT ExRx included
8	240		X	3-7 MET/wk changed to 7+
8	241		X	Rates of dehiscence added; references to 10-12 weeks removed throughout section; no limit on weight (lbs or MVV) included
8	243		x	Updated cardiac transplant stats, including survival rate
8	245		x	Longer warm-up and cool down periods advised for cardiac transplantation
8	253		X	Sarcoidosis, restrictive chest wall disease and ankylosing spondylitis added to Box 8.8
8	255		X	FITT table changes in resistance training frequency from 2-3d/wk to at least 2d/wk
8	256		x	Purpose of exercise testing added (bullet 1); more detailed info on 6MWT and shuttle walk tests for COPD

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8	261		X	FITT resistance training frequency changed from 2-3 d/wk to at least 2 d/wk
8	262		X	New information on page 262-266 - pulmonary hypertension, interstitial lung disease, cystic fibrosis, lung transplant, muscle fitness for lung disease
9	279-280	NA	A recent.....with the exception of HbA1c; with resistance exercise decreasing HbA1c in a greater magnitude although not clinically significant. It is important to also note that aerobic exercise significantly increased cardiorespiratory fitness (CRF) in greater magnitude compared to resistance exercise. CRF has been shown to be one of the strongest independent predictors of mortality among those with T2DM. Thus, it is encouraged that those with T2DM, and those with T1DM, participate in sufficient volumes of both aerobic exercise and resistance exercise. Several studies have provided evidence to suggest a combination of aerobic exercise and resistance exercise is superior to only aerobic or only resistance exercise in management of	New HbA1c information
9	280	NA	Minor changes to the FITT table: "Flexibility and Balance", "No more than 2 consecutive days without activity", "based on subjective experience of "moderate" to "very hard", "to improve strength", Balance exercises: light to moderate intensity", "Continuous activity or HIIT".	Updated table
9	281	NA	Appropriate progression of resistance exercise is important to prevent injury, as those with T2DM often have an increased risk for tendinopathy	Updated bullet point under "Exercise Training Considerations"
9	281	NA	During combined training, completing resistance training prior to aerobic training may lower the risk of post-exercise hypoglycemia in individuals with T1DM. HIIT training, combining both anaerobic and aerobic exercise, may have a similar effect.	Updated bullet point under "Exercise Training Considerations"

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9	283	NA	For those with diabetes, pre-exercise optimal blood glucose levels are between 90 and 250 mg/dL (5.0 and 13.9 mmol/L). The ADA provides guidelines on carbohydrate ingestion based upon pre-exercise blood glucose levels.	Updated bullet point under "Special Considerations"
9	283	NA	Hypoglycemia risk is higher during and immediately following primarily moderate-intensity aerobic exercise, but can occur up to 12 h or more postexercise, making food and/or medication adjustments necessary, mostly in insulin users (37,51). However, aerobic exercise at a vigorous intensity has been shown to decrease/lessen the speed in which blood glucose declines following exercise (52). Also, performing resistance exercise before aerobic exercise may elicit similar effects (37). Nonetheless, frequent blood glucose monitoring is the key to detecting and preventing later onset hypoglycemia.	Updated bullet point under "Special Considerations"
NA	NA	Most insulin users will need to consume carbohydrates (up to 15 g) prior to exercise participation when starting blood glucose levels are <100 mg · dL ⁻¹ (10).	NA	Removed bullet point under "Special Considerations"
9	284	NA	If blood glucose levels are ≥350 mg/dL (≥19.4 mmol/L), even without ketones present, conservative corrective insulin therapy is recommended before exercise	New bullet point under "Special Considerations"
9	287	Under the FITT table, under "Resistance", "< 50% 1-RM to improve muscle endurance" was removed	Under the FITT table, under "Resistance", "< 50% 1-RM to improve muscle endurance" was removed	Updated table
9	288	NA	It is important to be familiar with both the ACC/AHA and JNC7 BP thresholds and classifications as these changes may result in slight variations in prevalence and control rates and/or influence patient education. See Table 2.3 for both sets of criteria.	Updated recommendation

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9	290	NA	<p>Emerging research suggests that dynamic resistance exercise results in BP reductions equal to or greater in magnitude to those experienced following aerobic exercise (96). Therefore, the ExRx for individuals for hypertension no longer place an emphasis on aerobic exercise alone, but rather encourage a variety of multi-modal exercises that reflect personal preference. Individuals with hypertension are recommended to engage in aerobic or resistance exercise alone or aerobic and resistance exercise combined (i.e, concurrent exercise) on most, preferably all, days of the week to total 90 min to 150 min per week (96). In addition, neuromotor exercise should be performed $\geq 2-3$ d \cdot wk$^{-1}$ at low to moderate intensity for $\geq 20-30$ min per session and include exercise involving motor skills and/or functional body weight and flexibility exercise such as yoga, pilates, and tai chi (96).</p>	Updated information under "Exercise Prescription"
9	291	NA	<p>Hold static stretch for 10–30 s with 2–4 repetitions of each exercise targeting the major muscle tendon units to total 60 s of total stretching time for each exercise; ≤ 10 min per session</p>	Updated table

Chapter 10

Chapter	GETP 11 Page #	GETP 10	GETP 11	Comments
10	NA		x	Ch 11 of GETP10 is Ch 10 of GETP11
10	311		x	Additional information under exercise training considerations for individuals with arthritis
10	314,315		x	Figure 10.2 additional information on PPS for cancer patients
10	317		x	Table 10.1 Pre-exercise Med Assessment for Individuals with Cancer
10	318		x	FITT table for Cancer has been updated to reflect 2018 PAGA
10	319		x	Cancer-specific exercise considerations provided, new section
10	328		x	Expanded guidelines for rest of patients with fibromyalgia
10	330		x	Expanded special considerations for exercise training for patient with fibromyalgia
10	355		x	FITT table for SCI duration is slightly modified
10	358-361		x	Expanded special considerations section for SCI

Chapter 11-12

Chapter	GETP 11 Page #	GETP 10	GETP 11	Comments
11	379		X	Attention-deficit/Hyperactivity is new; 379-382
11	382		X	Alzheimer's Disease is new; 382-387
11	387		X	Anxiety and Depression is new; 387-392
11	392		X	Autism Spectrum Disorder is new; 392-396
11	397		X	New definition of CP
11	397		X	Risk factors for CP added
11	397		X	Prevalence rates of CP updated
11	397		X	Two forms of CP removed and replaced with detailed information on the features of CP
11	397		X	Motor abnormalities now described as unilateral and bilateral
11	398		X	A new gross motor classification system (Table 11.3) has replaced the CPISRA functional classification system (Table 11.4 in GETP10)
11	399		X	Exercise test for children with CP has been added (Table 11.4 and page 398)
11	399		X	Added section on assessing muscular strength
11	400		X	New special considerations section; notable information on predicting H _{rmax}
11	403		X	IQs for categories mild, moderate, severe and profound; ID changed
11	403		X	Main cause of death for those with ID are respiratory illness and circulatory disease
11	405		X	Tests "not recommended" for individuals with ID removed from Table 11.5
11	406		X	New information on strength, flexibility, balance and body composition testing
11	407		X	New Table 11.6 (skinfold equations for children with ID)
11	407		X	Detailed information on why those with ID have lower CRF
11	408		X	FITT - Aerobic frequency changed to ≥ 3 d/wk; Intensity changed to 40-80% of VO ₂ max instead of VO ₂ R
11	408		X	FITT- Resistance intensity changed to 10-12 reps to begin
11	408		X	FITT - Flexibility is now "preferred daily"
11	408		X	Added HIIT and interval training information for ID
11	412		X	Updated prevalence statistics

Chapter 11-12

11	413		X	Hoehn and Yahr staging changed (Box 11.2)
11	413		X	New clinical scale for assessing PR-MDS-UPDRS
11	414		x	Minor updates and more detail on medications; added long term complications
11	414		X	Table 11.7 added common medications for PD
11	419		X	FITT aerobic frequency changes to 3-4 d/wk; intensity recommendations have significant changes
11	419		X	Changed FITT resistance intensity and time recommendations
11	419		X	Neuromotor Recommendations added to FITT box
11	420		X	Change in recommendation to include high intensity exercise for some (also reflected in FITT box)
11	420		X	New recommendations for neuromotor exercise
11	420		X	Added Freezing of Gait
12	442		X	New Box 12.1. HIIT use caution with sedentary clients due to unpleasant affective responses
12	449		X	Low evidence that the theory of planned behavior explains exercise intentions and behavior
12	450		x	Added Dual Processing Theories
12	453		X	New Implementation Intentions
12	454		X	Added information about apps and wearable devices
12	455		X	New Affect Regulation section
12	462		X	Added section for individuals with mental illness

Appendix

Appendix	GETP 11 Page #	GETP 10	GETP 11	Comments
A	NA	The list of drugs including drug names, brand names has been removed (pages 406-425 in GETP10)		Removed information
A	471	NA	The following added to "exercise capacity" under beta blockers: ↑ in those with myocardial ischemia	Added information
A	471	The following removed from "exercise capacity" under beta blockers: VO2max acute administration, and ↑ chronic administration	NA	Removed information
A	NA	Captopril was removed	NA	Removed information
A	471	NA	Angiotensin-neprilysin inhibitors (ARNI), ↑ (CO), ↓ ventricular arrhythmias (ECG changes) and ↑ performance (exercise capacity) were added	Added information
A	NA	Diltiazem, Verapamil and Nifedipine were removed	NA	Removed information
A	471	NA	Under Dihydropyridine, Nifedipine: ↔ Exercise ↓ Stroke volume (CO) were added	Added information
A	472	NA	Under alpha blockers, Doxazosin: ↑ at 50% O2max (CO) and ↑ at 75% O2 max (HR) were added	
A	NA	Prazosin and Doxazosin were removed	NA	Removed information
A	472	NA	Under Central Alpha-agonist, Information adjusted, "except guanabenz" and " Clonidine: Blunts the sympathetic response to exercise; consider avoiding if exercising" added	Added information
A	NA	Clonidine was removed	NA	Removed information
A	NA	Guanabenz was removed	NA	Removed information
A	473	Cardiac Glycosides-Digitalis was moved under "others"	Digitalis was moved under "others"	Moved information
A	NA	Tocainide and Moricizine were removed	NA	Removed information
A	NA	"Antilipemic Agents" and "Blood Modifiers" medications were removed		Removed information

Appendix

A	474	NA	Anticholinergics was added to the Bronchodilators and Anticholinergics section. Anticholinergics: ↑ or ↔ HR (ECG Changes) and ↑ or ↔ in patients with chronic obstructive pulmonary disease (COPD) Bronchodilators: ↔ O2max were added	Added information
A	NA	Anticholinergics section was removed	NA	Removed information
A	NA	Mast Cell Stabilizers section was removed	NA	Removed information
A	475	NA	Information adjusted under "NSAIDs", ↔ Performance; Combined with dehydration may cause acute renal failure	Updated information
B	477	NA	The following was added to the introduction of the appendix: "with a focus on normal expectations of the ECG"	Updated information
B	479	NA	Table B4, under QRS axis, >+110 degrees, PE and Hemiblock (possible interpretations) were added.	Updated information
B	480	NA	Table B4, under T axis, BBB (possible interpretations) was added.	Updated information
B	NA	Tables C5-C9 were removed in GETP11		
B		x		Deleted Emergency Management in GETP11
B			x	Now ECG emphasizing normal, reference to MI locations and other abnormalities deleted
C	482-485		x	Updated any changes to certification requirements
D			x	Metabolic Equations: HR Max by Gelish is emphasized. Calculation changed.