

Diabetic Exercise Tutorial

This template can be accessed from:

AAA Home

SOUTHEAST TEXAS MEDICAL ASSOCIATES, LLP

Patient: Robert Test Jr Sex: M Age: 39 DOB: 03/25/1970
Home Phone: (409)688-8888 Work Phone: () -
Patient's Code Status: DNR

Patient has one or more alerts! [Click Here to View Alerts](#)

[SETMA's LESS Initiative](#) | [Preventing Diabetes](#) | [Preventing Hypertension](#) | [Medical Home Coordination](#)
[Charge Posting Tutorial](#) | [ICD-9 Code Tutorial](#) | [E&M Coding Recommendations](#) | **Needs Attention!!**

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[Daily Progress](#) | [Admission Orders](#) | [Discharge](#) | [Insulin Infusion](#) | [Colorectal Surgery](#) | [Pain Management](#) |
[Exercise](#) | [CHF Exercise](#) | **Diabetic Exercise** | [Drug Interactions](#) | [Smoking Cessation](#) |
[Hydration](#) | [Nutrition](#) | [Glaucoma](#) | [Lab Future](#) | [Lab Results](#) |

Disease Management
[Acute Coronary Syn](#) | [Angina](#) | [Asthma](#) | [CHF](#) | [Diabetes](#) | [Headaches](#) | [Hypertension](#) | [Lipids](#) | [Cardiometabolic Risk Syndrome](#) |
[Weight Management](#) | [Renal Failure](#) | [Diabetes Edu](#)

Patient's Pharmacy
Daleo Pharmacy
Phone: (409)633-2255
Fax: (409)633-8549
Rx Sheet - Active
Rx Sheet - New
Rx Sheet - Complete
Home Health

Pending Referrals | [Referral History](#)

Status	Priority	Referral	Referring Provider

Archived Referrals - Do not use for new referrals

Status	Priority	Referral	Referring Provider

Chart Note
Return Info
Return Doc
Email
Telephone
Records Request
Transfer of Care Doc

LESS Initiative

SOUTHEAST TEXAS MEDICAL ASSOCIATES, PLLC

Patient: Robert Test Jr Sex: M Age: 39 DOB: 03/25/1970
Home Phone: (409)888-8888 Work Phone: () -
Patient's Code Status: DNR

Patient has one or more alerts! [Click Here to View Alerts](#)

SETIMA's LESS Initiative | [Preventing Diabetes](#) | [Preventing Hypertension](#) | [Medical Home Coordination](#)
[Charge Posting Tutorial](#) | [ICD-9 Code Tutorial](#) | [E&M Coding Recommendations](#) | **Needs Attention!!**

[Master GP](#) | [Nursing Home](#) | [Ophthalmology](#) | [Pediatrics](#) | [Physical Therapy](#) | [Podiatry](#) | [Rheumatology](#)
[Daily Progress](#) | [Admission Orders](#) | [Discharge](#) | [Insulin Infusion](#) | [Colorectal Surgery](#) | [Pain Management](#) |
[Exercise](#) | [CHF Exercise](#) | [Diabetic Exercise](#) | [Drug Interactions](#) | [Smoking Cessation](#) |
[Hydration](#) | [Nutrition](#) | [Guidelines](#) | [Lab Future](#) | [Lab Results](#) |

Disease Management
[Acute Coronary Syn](#) | [Angina](#) | [Asthma](#) | [CHF](#) | [Diabetes](#) | [Headaches](#) | [Hypertension](#) | [Lipids](#) | [Cardiometabolic Risk Syndrome](#) |
[Weight Management](#) | [Renal Failure](#) | [Diabetes Edu](#)

Patient's Pharmacy
Daleo Pharmacy
Phone: (409)833-2255
Fax: (409)833-8549
[Rx Sheet - Active](#)
[Rx Sheet - New](#)
[Rx Sheet - Complete](#)
[Home Health](#)

Pending Referrals | [Referral History](#)

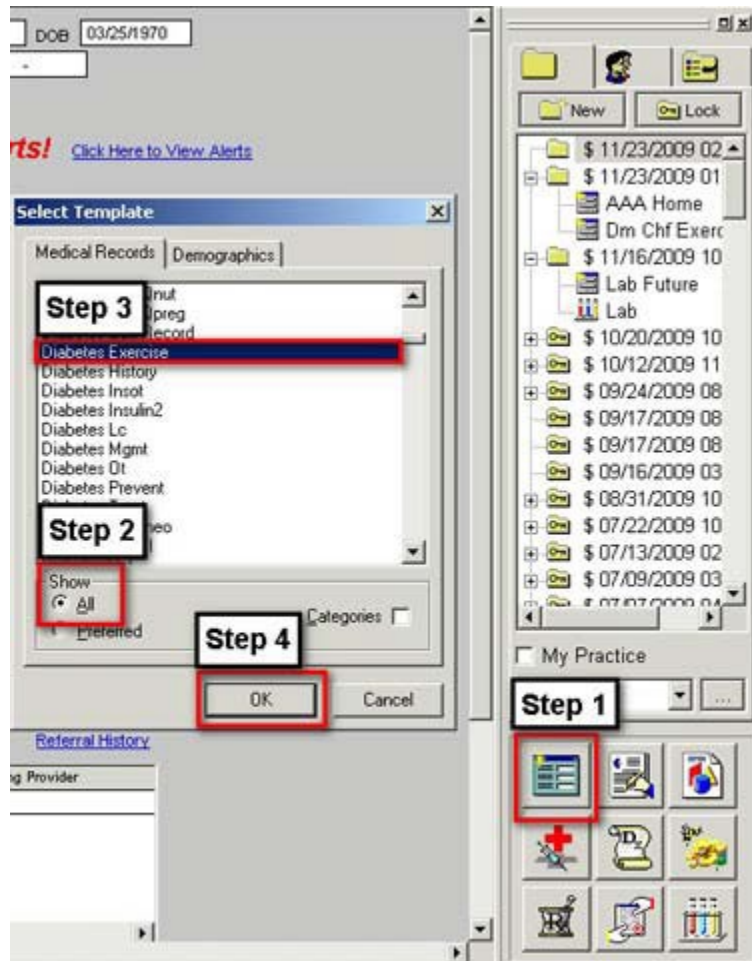
Status	Priority	Referral	Referring Provider

Archived Referrals - Do not use for new referrals

Status	Priority	Referral	Referring Provider

Chart Note
[Return Info](#)
[Return Doc](#)
[Email](#)
[Telephone](#)
[Records Request](#)
[Transfer of Care Doc](#)

Main Tool Bar



- When the Template button is clicked you will be presented with the preference list.
- If the Diabetes Exercise Template is listed as one of your preferences, select it.
- If it is not one of your preferences, select the All radio button and scroll down until you find it in the list. Then you may select the template by either double-clicking on the name or single click on the name (so that it is highlighted in blue) and then click the OK button.

NOTE: For more on how to set up your preferences, [Click Here](#)

The Diabetes Exercise Prescription template is organized into three columns.

Column 1 -

Possible Contraindications to exercise

There are three groups of cautions for exercise with patients who have diabetes. None of these are absolute contraindications but represent cautionary guides to help patients with diabetes

improve their glycemic levels with safe physical training or activities. The cautions are indicated by:

- **Risk Factors for CVD**
 - Age >35 and
 - a. Type 2 Diabetes >10 years
 - b. Type 1 Diabetes >15 years

Patients with longstanding diabetes are at higher risk for cardiovascular disease, as the very presence of diabetes is a cardiovascular risk equivalent, which means that a patient with diabetes is at the same risk for a future cardiac event as a person who has already had a heart attack or other cardiac event. Therefore, exercise programs in patients with diabetes ought to be started but they ought to be started with caution.

The screenshot shows a web-based clinical decision support tool titled "Diabetes and Exercise". It is divided into several sections:

- Possible Contraindications to Exercise**:
 - Risk Factors for CVD**: A red box highlights this section, containing checkboxes for "Age > 35 and..." (checked), "Type 2 Diabetes > 10 years", and "Type 1 Diabetes > 15 years".
 - Presence of risk factors for CAD**: Checkboxes for "Hypertension" (checked), "Obesity", "Dyslipidemia" (checked), and "Sedentary lifestyle".
 - Presence of microvascular disease**: Checkboxes for "Retinopathy", "PAD/PVD", "Peripheral Neuropathy", "Autonomic Neuropathy", and "Nephropathy", each with a corresponding link.
- Conclusion/Recommendation**:
 - Links for "Cardio Evaluation" and "Cardio Physical Exam".
 - Text: "The following should be performed before recommending an exercise program..."
 - Checkboxes for "EKG", "Stress Test", "Echocardiogram", and "Stress echocardiogram", with an "Order This Test" button.
 - Section "Double-Click To Order Referrals" with a table for "Referring First", "Referring Last", and "Referral".
- Recommended Exercise Intensity Level**: Radio buttons for "Very Light", "Light", "Moderate", "Hard", "Very Hard", and "Maximal".
- Additional Metrics**: Fields for "% Vo2 Max", "% Maximum Heart Rate", "Borg Rating Percieved Exertion", "Patient's Max Heart Rate", and "Target Range".
- Buttons**: "Return" and "Print Rx" in the top right.
- Links**: "Diabetes and Exercise Overview", "Elderly Diabetics and Exercise", "Exercise and Type 2 Diabetes", and "Exercise and Type 1 Diabetes" on the right side.

- **Presence of Risk Factors for CAD**
 1. Hypertension
 2. Obesity

3. Dyslipidemia
4. Sedentary Lifestyle

The presence of other risk factors for cardiovascular disease makes it more likely that the patient with diabetes may need cardiac evaluation before beginning a new exercise program, particularly if they are interested in a strenuous program. In column 2, this template offers the opportunity to order cardiovascular testing for screening patients with diabetes before beginning such an program.

Diabetes and Exercise

Possible Contraindications to Exercise

Risk Factors for CVD

☒ Age > 35 and...

☐ Type 2 Diabetes > 10 years

☐ Type 1 Diabetes > 15 years

Presence of risk factors for CAD

☒ Hypertension

☐ Obesity

☒ Dyslipidemia

☐ Sedentary lifestyle

Presence of microvascular disease

☐ [Retinopathy](#)

☐ [PAD/PVD](#)

☐ [Peripheral Neuropathy](#)

☐ [Autonomic Neuropathy](#)

☐ [Nephropathy](#)

Conclusion/Recommendation

[Cardio Evaluation](#) [Cardio Physical Exam](#)

The following should be performed before recommending an exercise program...

☐ EKG [Order This Test](#)

☐ Stress Test

☐ Echocardiogram

☐ Stress echocardiogram

Double-Click To Order Referrals

Referring First	Referring Last	Referral

[Diabetes and Exercise Overview](#)

[Elderly Diabetics and Exercise](#)

[Exercise and Type 2 Diabetes](#)

[Exercise and Type 1 Diabetes](#)

Recommended Exercise Intensity Level

☐ Very Light

☐ Light

☐ Moderate

☐ Hard

☐ Very Hard

☐ Maximal

% Vo2 Max:

Patient's Max Heart Rate: bpm

% Maximum Heart Rate: to

Target Range: to bpm

[Return](#)

[Print Rx](#)

- **Presence of Microvascular Disease**

Diabetes and Exercise

Possible Contraindications to Exercise

Risk Factors for CVD

☒ Age > 35 and...

☐ Type 2 Diabetes > 10 years

☐ Type 1 Diabetes > 15 years

Presence of risk factors for CAD

☒ Hypertension

☐ Obesity

☒ Dyslipidemia

☐ Sedentary lifestyle

Presence of microvascular disease

☐ [Retinopathy](#)

☐ [PAD/PVD](#)

☐ [Peripheral Neuropathy](#)

☐ [Autonomic Neuropathy](#)

☐ [Nephropathy](#)

Conclusion/Recommendation

[Cardio Evaluation](#) [Cardio Physical Exam](#)

The following should be performed before recommending an exercise program...

☐ EKG

☐ Stress Test

☐ Echocardiogram

☐ Stress echocardiogram

Double-Click To Order Referrals

Referring First	Referring Last	Referral

Return

Print Rx

[Diabetes and Exercise Overview](#)
[Elderly Diabetics and Exercise](#)
[Exercise and Type 2 Diabetes](#)
[Exercise and Type 1 Diabetes](#)

Recommended Exercise Intensity Level

☐ Very Light

☐ Light

☐ Moderate

☐ Hard

☐ Very Hard

☐ Maximal

% Vo2 Max

Patient's Max Heart Rate bpm

% Maximum Heart Rate to

Target Range to bpm

Borg Rating Perceived Exertion

1. Retinopathy
2. PAD/PVD
3. Peripheral Neuropathy
4. Autonomic Neuropathy
5. Nephropathy

Any of the five categories of microvascular disease have implications for exercise. These will be examined in detail below.

Recommended Exercise Intensity Level

Based on the evaluation above, an exercise intensity level can be selected among the following options:

- Very Light
- Light
- Moderate
- Hard
- Very Hard

- Maximal

When selected, the following data is displayed on the template and subsequently added to the patients Diabetes Exercise Prescription. That data includes:

- %Vo2Max
- % Maximum Heart Rate
- Borg Rating Perceived Exertion
- Patient's Max heart Rate
- Target Range

Diabetes and Exercise

Possible Contraindications to Exercise

Risk Factors for CVD

☒ Age > 35 and...

☐ Type 2 Diabetes > 10 years

☐ Type 1 Diabetes > 15 years

Presence of risk factors for CAD

☒ Hypertension

☐ Obesity

☒ Dyslipidemia

☐ Sedentary lifestyle

Presence of microvascular disease

☐ [Retinopathy](#)

☐ [PAD/PVD](#)

☐ [Peripheral Neuropathy](#)

☐ [Autonomic Neuropathy](#)

☐ [Nephropathy](#)

Conclusion/Recommendation

[Cardio Evaluation](#) [Cardio Physical Exam](#)

The following should be performed before recommending an exercise program...

☐ EKG

☐ Stress Test

☐ Echocardiogram

☐ Stress echocardiogram

Double-Click To Order Referrals

Referring First	Referring Last	Referral

[Diabetes and Exercise Overview](#)

[Elderly Diabetics and Exercise](#)

[Exercise and Type 2 Diabetes](#)

[Exercise and Type 1 Diabetes](#)

Recommended Exercise Intensity Level

☐ Very Light

☐ Light

☐ Moderate

☐ Hard

☐ Very Hard

☐ Maximal

% Vo2 Max

Patient's Max Heart Rate

bpm

% Maximum Heart Rate

to

Target Range

to bpm

Borg Rating Perceived Exertion

Column 2 -

Conclusion/Recommendation

Diabetes and Exercise

Possible Contraindications to Exercise

Risk Factors for CVD

☒ Age > 35 and...

☐ Type 2 Diabetes > 10 years

☐ Type 1 Diabetes > 15 years

Presence of risk factors for CAD

☒ Hypertension

☐ Obesity

☒ Dyslipidemia

☐ Sedentary lifestyle

Presence of microvascular disease

☐ Retinopathy

☐ PAD/PVD

☐ Peripheral Neuropathy

☐ Autonomic Neuropathy

☐ Nephropathy

Conclusion/Recommendation

[Cardio Evaluation](#) [Cardio Physical Exam](#)

The following should be performed before recommending an exercise program...

☐ EKG [Order This Test](#)

☐ Stress Test

☐ Echocardiogram

☐ Stress echocardiogram

Double-Click To Order Referrals

Referring First	Referring Last	Referral

Recommended Exercise Intensity Level

☐ Very Light

☐ Light

☐ Moderate

☐ Hard

☐ Very Hard

☐ Maximal

% Vo2 Max:

% Maximum Heart Rate: to

Borg Rating Perceived Exertion:

Patient's Max Heart Rate: bpm

Target Range: to bpm

[Diabetes and Exercise Overview](#)

[Elderly Diabetics and Exercise](#)

[Exercise and Type 2 Diabetes](#)

[Exercise and Type 1 Diabetes](#)

[Return](#)

[Print Rx](#)

First there are two buttons with the following titles:

Cardio Evaluation - when clicked this launches a pop-up with the following information:

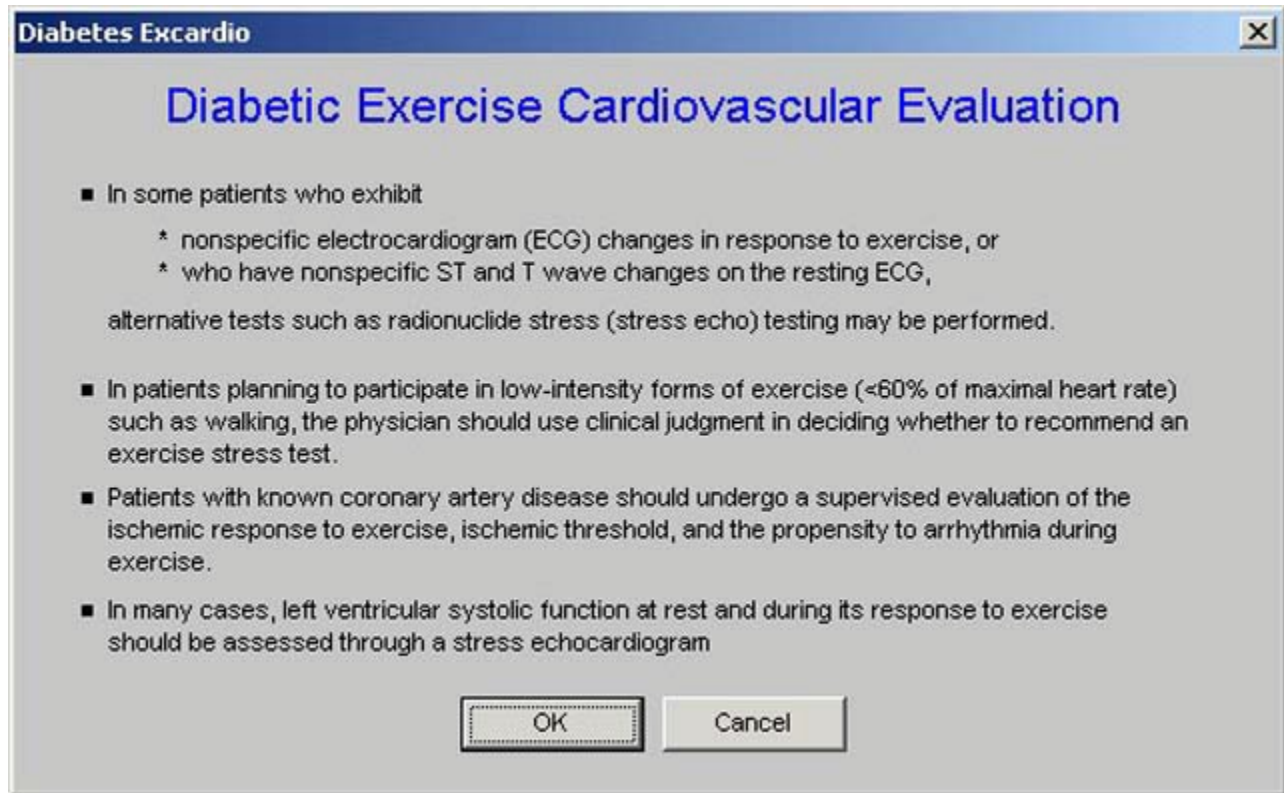
In some patients who exhibit

- Nonspecific electrocardiogram (ECG) changes in response to exercise, or
- Who have nonspecific S and T wave changes on the resting ECG,

Alternative tests such as radionuclide stress (stress echo) testing may be performed.

- In patients planning to participate in low-intensity forms of exercise (<60% of maximal heart rate) such as walking, the physician should use clinical judgment in deciding whether to recommend an exercise stress test.>
- Patients with known coronary artery disease should undergo a supervised evaluation of the ischemic response to exercise, ischemic threshold and the propensity to arrhythmia during exercise.

- e. In many cases, left ventricular systolic function at rest and during its response to exercise should be assessed through a stress echocardiogram.



Cardio Physical Exam

This launches the cardiovascular template from the Master GP template which allows you to document any pertinent changes to the patient's cardiovascular system which might give you data with which to decide what type of testing may or may not be needed.

Pe Cardiovascular x

Cardiovascular Exam

Auscultation	☐ Normal			Location
Murmurs	☐ Absent			
Palpation	☐ Normal			
Bruit	☐ Absent			
JVP	☐ Normal	☐ JVP distended		cms
Pulses	☐ Normal	Location	Intensity	
			R	L
		Carotids		
		Brachial		
		Radial		
		Femoral		
		Popliteal		
		Dorsalis Pedis		
		Posterior Tibial		

Peripheral Edema ☐ No ☐ Yes ☐ Pitting

Bilateral	☐ 1+	☐ 2+	☐ 3+	Clear
RLE	☐ 1+	☐ 2+	☐ 3+	Clear
LLE	☐ 1+	☐ 2+	☐ 3+	Clear

Carotid Intima Media Thickening

	Right	Left
Thickening (mm)		
Blockage Present	☐ No ☐ Yes	☐ No ☐ Yes
Percent Blocked		

Comments

Beneath these two buttons is a charge posting function for

- EKG
- Stress Test
- Echocardiogram
- Stress Echocardiogram

There is also a button entitled "**Order This Test**" which will charge post when the test is selected and the button is depressed.

Diabetes and Exercise

Possible Contraindications to Exercise

Risk Factors for CVD

☒ Age > 35 and...

☐ Type 2 Diabetes > 10 years

☐ Type 1 Diabetes > 15 years

Presence of risk factors for CAD

☒ Hypertension

☐ Obesity

☒ Dyslipidemia

☐ Sedentary lifestyle

Presence of microvascular disease

☐ [Retinopathy](#)

☐ [PAD/PVD](#)

☐ [Peripheral Neuropathy](#)

☐ [Autonomic Neuropathy](#)

☐ [Nephropathy](#)

Conclusion/Recommendation

[Cardio Evaluation](#) [Cardio Physical Exam](#)

The following should be performed before recommending an exercise program...

☐ EKG

☐ Stress Test

☐ Echocardiogram

☐ Stress echocardiogram

Double-Click To Order Referrals

Referring First	Referring Last	Referral

[Diabetes and Exercise Overview](#)

[Elderly Diabetics and Exercise](#)

[Exercise and Type 2 Diabetes](#)

[Exercise and Type 1 Diabetes](#)

Recommended Exercise Intensity Level

☐ Very Light

☐ Light

☐ Moderate

☐ Hard

☐ Very Hard

☐ Maximal

% Vo2 Max

Patient's Max Heart Rate

bpm

% Maximum Heart Rate

to

Target Range

to bpm

Borg Rating Percieved Exertion

Beneath this function there is a link to the **Referral** template for the Stress Test, Echocardiogram and Stress Echocardiogram.

Diabetes and Exercise

Possible Contraindications to Exercise

Risk Factors for CVD

☒ Age > 35 and...

☐ Type 2 Diabetes > 10 years

☐ Type 1 Diabetes > 15 years

Presence of risk factors for CAD

☒ Hypertension

☐ Obesity

☒ Dyslipidemia

☐ Sedentary lifestyle

Presence of microvascular disease

☐ [Retinopathy](#)

☐ [PAD/PVD](#)

☐ [Peripheral Neuropathy](#)

☐ [Autonomic Neuropathy](#)

☐ [Nephropathy](#)

Conclusion/Recommendation

[Cardio Evaluation](#) [Cardio Physical Exam](#)

The following should be performed before recommending an exercise program...

☐ EKG

☐ Stress Test

☐ Echocardiogram

☐ Stress echocardiogram

Double-Click To Order Referrals

Referring First	Referring Last	Referral

[Diabetes and Exercise Overview](#)

[Elderly Diabetics and Exercise](#)

[Exercise and Type 2 Diabetes](#)

[Exercise and Type 1 Diabetes](#)

Recommended Exercise Intensity Level

☐ Very Light

☐ Light

☐ Moderate

☐ Hard

☐ Very Hard

☐ Maximal

% Vo2 Max

Patient's Max Heart Rate

bpm

% Maximum Heart Rate

to

Target Range

to bpm

Borg Rating Perceived Exertion

Column 3 -

- There is a **Return** button which takes you back to the **LESS Initiative** Main template
- There is a **Print Rx** button which prints the **Diabetes Exercise Prescription** which is discussed below.

Finally in the third column, the following documents can be printed:

- Diabetes and Exercise Overview
- Elderly Diabetics and Exercise
- Exercise and Type 2 Diabetes
- Exercise and Type 1 Diabetes

Diabetes and Exercise

Possible Contraindications to Exercise

Risk Factors for CVD

☒ Age > 35 and...

☐ Type 2 Diabetes > 10 years

☐ Type 1 Diabetes > 15 years

Presence of risk factors for CAD

☒ Hypertension

☐ Obesity

☒ Dyslipidemia

☐ Sedentary lifestyle

Presence of microvascular disease

☐ [Retinopathy](#)

☐ [PAD/PVD](#)

☐ [Peripheral Neuropathy](#)

☐ [Autonomic Neuropathy](#)

☐ [Nephropathy](#)

Conclusion/Recommendation

[Cardio Evaluation](#) [Cardio Physical Exam](#)

The following should be performed before recommending an exercise program...

☐ EKG

☐ Stress Test

☐ Echocardiogram

☐ Stress echocardiogram

Double-Click To Order Referrals

Referring First	Referring Last	Referral

[Diabetes and Exercise Overview](#)

[Elderly Diabetics and Exercise](#)

[Exercise and Type 2 Diabetes](#)

[Exercise and Type 1 Diabetes](#)

Recommended Exercise Intensity Level

☐ Very Light

☐ Light

☐ Moderate

☐ Hard

☐ Very Hard

☐ Maximal

% Vo2 Max

Patient's Max Heart Rate

bpm

% Maximum Heart Rate

to

Target Range

to bpm

Borg Rating Perceived Exertion

More detail on the five categories of microvascular complications of diabetes and their implications for exercise prescriptions for patients with diabetes.

1. **Retinopathy** - *this is the first category of microvascular complications.* If the patient has retinopathy, you should check the check box next to the name and then click the hyperlink entitled "**Retinopathy**." This displays the following:

For patients who have proliferative diabetic retinopathy (PDR) that is active, strenuous activity may precipitate vitreous hemorrhage or traction retinal detachment. These individuals should avoid anaerobic exercise and exercise that involves strain, jarring, or valsalva-like maneuvers.

On the basis of the Joslin Clinic experience, the degree of diabetic retinopathy has been used to stratify the risk of exercise, and to individually tailor the exercise prescription.

Instructions are then given on the template to "Select the appropriate level of retinopathy below to view recommended and non-recommended activities.

The options are:

- No DR (No Retinopathy)
- Mild NPDR (Non-proliferative Diabetic Retinopathy)
- Moderate NPDR (Non-proliferative Diabetic Retinopathy)
- Severe NPDR (Non-proliferative Diabetic Retinopathy)
- PDR (Proliferative Diabetic Retinopathy)

When the radial button next to these options is selected, boxes entitled

- Acceptable Activities.
- Discouraged Activities and
- Ocular re-evaluation

are populated. From these instructions, a decision about the level of intensity of exercise can be made.

Diabetes Exretino

Retinopathy and Exercise

For patients who have proliferative diabetic retinopathy (PDR) that is active, strenuous activity may precipitate vitreous hemorrhage or traction retinal detachment. These individuals should avoid anaerobic exercise and exercise that involves:

- * straining,
- * jarring, or
- * Valsalva-like maneuvers.

On the basis of the Joslin Clinic experience, the degree of diabetic retinopathy has been used to stratify the risk of exercise, and to individually tailor the exercise prescription.

Select the appropriate level of retinopathy below to view recommended and non-recommended activities.

	Acceptable Activities	Discouraged Activities	Ocular Re-evaluation
☐ No DR			
☐ Mild NPDR			
☐ Moderate NPDR			
☐ Severe NPDR			
☐ PDR			

OK Cancel

The next microvascular complication is:

2. **PAD/PVD** - when the check box next to this option is selected, the hyperlink entitled PAD/PVD (Peripheral Artery Disease/Peripheral Vascular Disease) should be clicked. This will launch the following information on a pop-up.

Evaluation of peripheral arterial disease (PAD) is based on signs and symptoms including.

- a. Intermittent Claudication
- b. Coldness of the extremity
- c. Decreased or absent pulses
- d. Atrophy of subcutaneous tissues
- e. Hair Loss on extremity

Diabetes Expd

PAD/PVD and Exercise

Evaluation of peripheral arterial disease (PAD) is based signs and symptoms, including...

- ☐ intermittent claudication
- ☐ coldness of the extremities
- ☐ decreased or absent pulses
- ☐ atrophy of subcutaneous tissues
- ☐ hair loss on extremities

[Neurological Exam](#) [Extremity Exam](#)

The basic treatment for intermittent claudication is...

- ☐ nonsmoking and
- ☐ a supervised exercise program

The presence of a dorsalis pedis and posterior tibial pulse does not rule out ischemic changes in the forefoot. If there is any question about blood flow to the forefoot and toes on physical examination, toe pressures as well as Doppler pressures at the ankle should be carried out.

OK **Cancel**

Next to these five options are links to the Master GP **Neurological Exam** and **Extremity Exam**. They enable the elements of PAD to be properly assessed and documented.

Pe Neurological

Neurological Exam

Mental Status
Cognitive Abilities ☐ Normal ☐ Defer to Psychiatric
Emotional Stability ☐ Normal ☐ Defer to Psychiatric

Motor Exam

Cranial Nerves

Sensory Function
Coordination ☐ Normal
Fine Motor Skills ☐ Normal
Sensory Response ☐ Normal
Balance & Gait ☐ Normal
Romberg ☐ + Romberg ☐ - Romberg

Superficial and Deep Tendon Reflex

	Right	Left
Reflexes	☐ Normal	☐ Normal
Deep Reflexes	☐ Normal	☐ Normal
Touch	☐ Normal	☐ Normal
Vibratory	☐ Normal	☐ Normal

Bicep	☐ Absent	☐ +1	☐ +2	☐ +3	☐ +4
Tricep	☐ Absent	☐ +1	☐ +2	☐ +3	☐ +4
Patella	☐ Absent	☐ +1	☐ +2	☐ +3	☐ +4
Ankle	☐ Absent	☐ +1	☐ +2	☐ +3	☐ +4
Babinski Sign	☐ +	☐ -			
Kernig's Sign	☐ +	☐ -			

Comments

OK

Cancel

Cranialnerves

Cranial Nerves

1

Olfactory

☐ Intact
☐ Not Intact

Each nostril smells familiar odors

2

Optic

☐ Intact
☐ Not Intact

Snellen visual acuity VNL Red/green colour vision unimpaired Rosenbaum near vision VNL Peripheral vision VNL

3

Oculomotor

☐ Intact
☐ Not Intact

PEARLA bilaterally No eyelid ptosis Extraocular eye movements VNL (LR4/SO6)

4

Trochlear

☐ Intact
☐ Not Intact

Eye movement upward and downward VNL

5

Trigeminal

☐ Intact
☐ Not Intact

Corneal reflex brisk bilaterally Facial sensation normal Jaw clench strong Jaw moves against lateral resistance

6

Abducens

☐ Intact
☐ Not Intact

Eyes move laterally

7

Facial

☐ Intact
☐ Not Intact

Sweet/sour/bitter/salty anterior tongue intact Eyebrow elevation symetrical Frown/smile symetrical Squeezes eyes shut Shows teeth Able to whistle Puffs out cheeks

8

Acoustic

☐ Intact
☐ Not Intact

Hears whispered voice at 2' distance Hears watch tick at distance simlat to the examiner Weber: no lateralization Rinne: air conduction > bone conduction Finger - Nose apposition VNL No postural deviation with feet together

9

Glossopharyngeal

☐ Intact
☐ Not Intact

Uvula elevates at midline Gag reflex intact Perceives touch to pharyngeal tissue

10

Vagus

☐ Intact
☐ Not Intact

Speaks without hoarseness or difficulty No swallowing or breathing difficulty

11

Accessory

☐ Intact
☐ Not Intact

Equal bilateral shrug against resistance Turns head from side to side Opposes resistance against chin

12

Hypoglossal

☐ Intact
☐ Not Intact

Tongue protrudes at midline No tremors, fasciculations of tongue No atrophy of tongue Pronounces R sound without difficulty

OK

Cancel

Pe Neuro Motor

Motor Exam

Upper Extremities

Left

most

☐ 5/5
☐ 4+/5
☐ 4/5
☐ 4-/5
☐ 3/5
☐ 2/5
☐ 1/5
☐ 0/5

Right

☐ 5/5
☐ 4+/5
☐ 4/5
☐ 4-/5
☐ 3/5
☐ 2/5
☐ 1/5
☐ 0/5

Lower Extremities

Left

☐ 5/5
☐ 4+/5
☐ 4/5
☐ 4-/5
☐ 3/5
☐ 2/5
☐ 1/5
☐ 0/5

Right

☐ 5/5
☐ 4+/5
☐ 4/5
☐ 4-/5
☐ 3/5
☐ 2/5
☐ 1/5
☐ 0/5

Tone

OK

Cancel

17 of 30

Pe Extremity

Extremity Exam

	Location	Intensity	
		R	L
Pulses	dorsalis pedis		
	posterior tibial		
	femoral		
	popliteal		

	Location	Lesions	Color	Shape	Distribution	Size(cm)
Skin lesions						

☐ None

☐ Xanthomata ☐ Tendinous Xanthomata

	Location	Touch	Vibratory	Deep tendon reflexes
Neuro				

☐ Normal

Comments

The basic treatment for intermittent claudication is;

- Nonsmoking and
- A supervised exercise program

The presence of a dorsalis pedis and posterior tibial pulse does not rule out ischemic changes in the forefoot. If there is any question about blood flow to the forefoot and toes on physical examination, toe pressures as well as Doppler pressures at the ankle should be carried out.

The next category of micovascular disease is

3. **Peripheral Neuropathy** - when the check box next to this option is checked, the hyperlink named Peripheral Neuropathy should be clicked which will launch a pop-up with the following displayed:

Peripheral Neuropathy and Exercise

Peripheral neuropathy (PN) may result in loss of protective sensation in the feet. Significant PN is an indication to limit weight-bearing exercise.

- Repetitive exercise on insensitive feet can ultimately lead to ulceration and fractures.
- Evaluation of PN can be made by checking the
 1. Deep Tendon reflexes
 2. Vibratory Sense
 3. Position sense

Diabetes Exneurop

Peripheral Neuropathy and Exercise

Peripheral Neuropathy

Peripheral neuropathy (PN) may result in loss of protective sensation in the feet. Significant PN is an indication to limit weight-bearing exercise.

- * Repetitive exercise on insensitive feet can ultimately lead to ulceration and fractures.
- * Evaluation of PN can be made by checking the:
 1. deep tendon reflexes
 2. vibratory sense [Neurological Exam](#) [Extremity Exam](#) [Foot Exam](#)
 3. position sense
- * Touch sensation can best be evaluated by using monofilaments.
 1. The inability to detect sensation using the 5.07 (10 g) monofilament is indicative of the loss of protective sensation.

Peripheral Neuropathy Present? ☒ Yes ☐ No

Exercises for diabetic patients with loss of protective sensation
(select those which you would like to recommend or exclude)

Contraindicated Exercises	Recommended Exercises	
☒ Treadmill	☒ Swimming	☒ Chair exercises
☒ Prolonged walking	☒ Bicycling	☒ Arm exercises
☒ Jogging	☒ Rowing	☒ Non-weight-bearing exercises
☒ Step exercises		

4. **Note:** Next to these options are links to the Master GP **Neurological Exam**, **Extremity Exam** and **Foot Exam**.

Pe Neurological

Neurological Exam

Mental Status
Cognitive Abilities ☐ Normal ☐ Defer to Psychiatric
Emotional Stability ☐ Normal ☐ Defer to Psychiatric

Motor Exam

Cranial Nerves

Sensory Function
Coordination ☐ Normal
Fine Motor Skills ☐ Normal
Sensory Response ☐ Normal
Balance & Gait ☐ Normal
Romberg ☐ + Romberg ☐ - Romberg

Superficial and Deep Tendon Reflex

	Right	Left
Reflexes	☐ Normal	☐ Normal
Deep Reflexes	☐ Normal	☐ Normal
Touch	☐ Normal	☐ Normal
Vibratory	☐ Normal	☐ Normal

Bicep	☐ Absent	☐ +1	☐ +2	☐ +3	☐ +4
Tricep	☐ Absent	☐ +1	☐ +2	☐ +3	☐ +4
Patella	☐ Absent	☐ +1	☐ +2	☐ +3	☐ +4
Ankle	☐ Absent	☐ +1	☐ +2	☐ +3	☐ +4
Babinski Sign	☐ +	☐ -			
Kernig's Sign	☐ +	☐ -			

Comments

OK

Cancel

Location		Intensity	
		R	L
Pulses	dorsalis pedis		
	posterior tibial		
	femoral		
	popliteal		

Location	Lesions	Color	Shape	Distribution	Size(cm)

☐ None
 ☐ Xanthomata
 ☐ Tendinous Xanthomata

	Location	Touch	Vibratory	Deep tendon reflexes
R				
L				

☐ Normal

Comments

OK Cancel

Pe Feet

☐ Normal

Foot Exam

Extremity Exam

Monofilament Exam

Risk Assessment

☐ Thick nails
☐ Ingrown nails
☐ Nails too long
☐ Absence of hair
☐ Abnormal shape in left foot
☐ Abnormal shape in right foot
☐ Skin between toes checked

Right

Left

Pulses

Femoral

Popliteal

Posterior Tibial

Dorsalis Pedis

Peroneal Artery

Doppler Exam

Posterior Tibial

Dorsalis Pedis

Peroneal Artery

Direction

Posterior Tibial

Dorsalis Pedis

Peroneal Artery

Cap Refill

Digital Hair

Dep Rudor

☐ Immediate
☐ Present
☐ Present

☐ Delayed
☐ Absent
☐ Absent

Skin condition of feet

Comments

☐ Click here if you are unable to complete the foot exam due to medical reasons.
(eg. Patient has bilateral amputation, etc.)

OK

Cancel

22 of 30

Pe Feetrisk

Foot Risk Assessment

1.	☐ Intact protective sensation	☐ Loss of protective sensation
2.	☐ Pedal pulses present	☐ Absent pedal pulses
3.	☐ No severe deformity	☐ Severe foot deformity
4.	☐ No prior foot ulcer	☐ History of foot ulcer
5.	☐ No amputation	☐ Prior amputation

Calculate Assessment

☐ LOW Risk	☐ HIGH Risk
Visual foot exam every routine diabetes visit	Conduct comprehensive lower extremity exam every 3-6 months
Annual complete lower extremity sensory exam	Demonstrate preventative self-care of the feet
Assess & recommend appropriate footwear	Refer to specialists and diabetes educator as indicated
Provide patient education for preventive self-care	Assess/prescribe appropriate footwear
	Certify Medicare patients for therapeutic shoe benefits

OK Cancel

Pe Feetmonofil

Semmes-Weinstein 5.07 (10 g) Monofilament Examination

Last Performed 05/19/2009

Procedures

1. Have the patient look away or close his or her eyes.
2. Hold the filament perpendicular to the skin.
3. Avoiding any ulcers, calluses, or sores, touch the monofilament to the skin until it bends.
4. Hold in place for approximately 1.5 seconds, and then gently remove it.
5. Randomly test the sites listed below.
6. Elicit a response from the patient at each site. Lack of sensation at any site may indicate diabetic neuropathy.

The monofilament may be cleaned with 1:10 sodium hypochlorite solution if contaminated with blood or body fluids.

High Risk Areas (P=sensation present, A=sensation absent, D=sensation diminished)

		Right		Left		Right		Left	
Toe Pulp	1	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A		Heel	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A
	2	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A					
	3	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A					
	4	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A					
	5	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A					
Metatarsal Heads	1	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A		Foot	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A
	2	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A					
	3	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A					
	4	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A					
	5	☐ P ☐ D ☐ A		☐ P ☐ D ☐ A					

Touch sensation can best be evaluated by using monofilaments. The inability to detect sensation using the 5.07 (do gram) monofilament is indicative of the loss of protective sensation.

Peripheral Neuropathy Present Yes No

Exercise for diabetic patients with loss of protective sensation
(Select those which you would like to recommend or exclude)

Contraindicated Exercises

- ☐ Treadmill
- ☐ Prolonged walking
- ☐ Jogging
- ☐ Step exercises

Recommended Exercise

- ☐ Swimming
- ☐ Bicycling

- Rowing
- Chair Exercises
- Arm Exercises
- Non-weight-bearing exercise.

The next category of microvascular complications which can impact exercise in the patient with diabetes is Autonomic Neuropathy.

5. **Autonomic Neuropathy** - if the check box is checked or if this is a concern, the Autonomic Neuropathy hyperlink should be clicked. This launches a pop-up which states:

The presence of autonomic neuropathy may limit an individual's exercise capacity and increase the risk of an adverse cardiovascular event during exercise. Cardiac autonomic neuropathy (CAN) may be indicated by

- Resting tachycardia (>100 beats per minute)
- Orthostasis (a fall in SBP > 20 mmHg upon standing)
- Other disturbances in autonomic nervous system function involving the skin, pupils, gastrointestinal, or genitourinary systems.

The patient's pulse is automatically populated to this template in a box entitled Today's Pulse.

Diabetes Exneuro

Autonomic Neuropathy and Exercise

Autonomic Neuropathy

The presence of autonomic neuropathy may limit an individual's exercise capacity and increase the risk of an adverse cardiovascular event during exercise. Cardiac autonomic neuropathy (CAN) may be indicated by:

- ☐ resting tachycardia (> 100 beats per min)
- ☐ orthostasis (a fall in SBP > 20 mmHg upon standing)
- ☐ other disturbances in autonomic nervous system function involving the skin, pupils, gastrointestinal, or genitourinary systems

Today's Pulse

OK Cancel

The fifth and final category of microvascular complications in the patient with diabetes which can impact the exercise prescription is Nephropathy.

6. **Nephropathy** -if the patient has nephropathy, the hyperlink should be clicked which launches a pop-up which states:

Specific exercise recommendations have not been developed for patients with

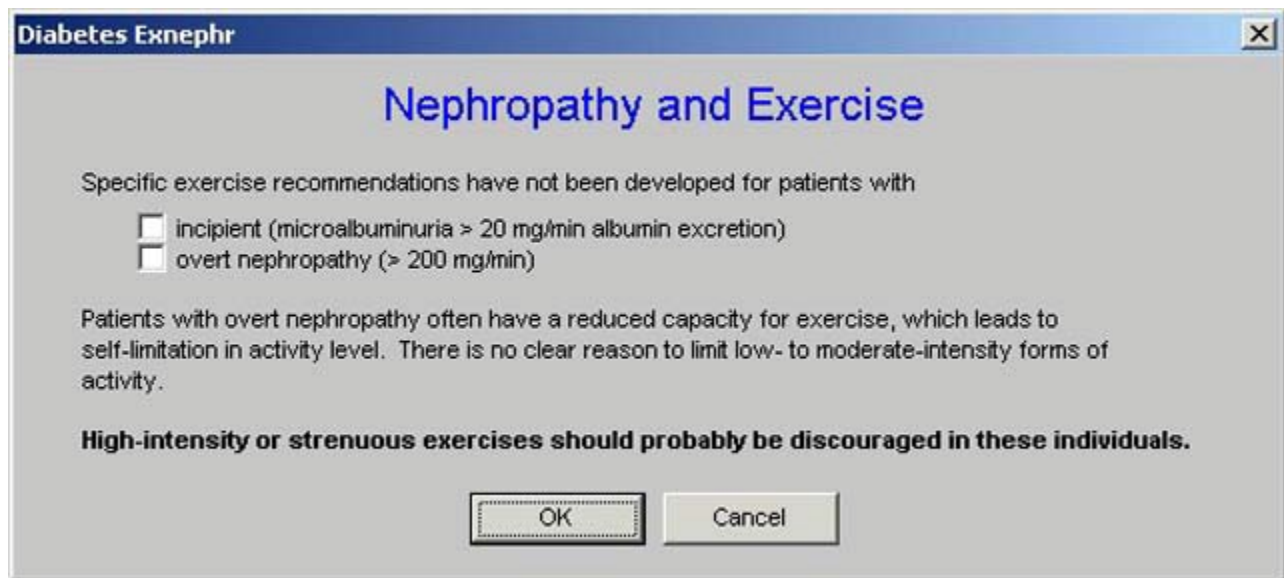
- Incipient (microalbuminuria >20 mg/min albumin excretion)

- Overt nephropathy (> 200 mg/min)

Patients with overt nephropathy often have a reduced capacity for exercise, which lead to self-limitation in activity level. There is no clear reason to limit to low- to moderate-intensity forms of activity.

High-intensity or strenuous exercises should probably be discouraged in these individuals.

All of the information on the microvascular complications will print on your Diabetic Exercise Prescription.



The following is an analysis of the Diabetic Exercise Prescription

Diabetic Exercise Prescription

Part 1 -

This gives general principles about the amount of exercise a patient with diabetes should have.

General Principles

The recent Surgeon Generals Report on Physical Activity and Health underscores the pivotal role physical activity plays in health promotion and disease prevention.

- It recommends that individuals accumulate 30 min of moderate physical activity on most days of the week.
- In the context of diabetes, it is becoming increasingly clear that the epidemic of type 2 diabetes sweeping the globe is associated with decreasing levels of activity and an increasing prevalence of obesity.

- Thus, the importance of promoting exercise as a vital component of the prevention as well as management of type 2 diabetes must be viewed as a high priority.
- It must also be recognized that the benefit of exercise in improving the metabolic abnormalities of type 2 diabetes is probably greatest when it is used early in its progression from insulin resistance to impaired glucose tolerance to overt hyperglycemia requiring treatment with oral glucose-lowering agents and finally to insulin.

For people with type 1 diabetes, the emphasis must be on adjusting the therapeutic regimen to allow safe participation in all forms of physical activity consistent with an individual's desires and goals. Ultimately, all patients with diabetes should have the opportunity to benefit from the many valuable effects of exercise.

Part 2 -

This begins to give details about exercise by a patient with diabetes, the warm up and cool down phrase are particularly important in a diabetic.

Warm Up/Cool Down

A standard recommendation for diabetic patients, as for nondiabetic individuals, is that exercise includes a proper warm-up and cool-down period.

- A warm-up should consist of 5-10 min of aerobic activity (walking, cycling, etc.) at a low-intensity level.
- The warm-up session is to prepare the skeletal muscles, heart, and lungs for a progressive increase in exercise intensity.
- After a short warm-up, muscles should be gently stretched for another 5-10 min.
- Primarily, the muscles used during the active exercise session should be stretched, but warming up all muscle groups is optimal.
- The active warm-up can either take place before or after stretching.
- After the activity session, a cool-down should be structured similarly to the warm-up.
- The cool-down should last about 5-10 min and gradually bring the heart rate down to its pre-exercise level.

Part 3 -

This addresses the importance of foot care in patients with diabetes who are exercising.

Foot Care, Equipment, and Identification

There are several considerations that are particularly important and specific for the individual with diabetes.

- Aerobic exercise should be recommended, but taking precautionary measures for exercise involving the feet is essential for many patients with diabetes.

- The use of silica gel or air midsoles as well as polyester or blend (cotton-polyester) socks to prevent blisters and keep the feet dry is important for minimizing trauma to the feet.
- Proper footwear is essential and must be emphasized for individuals with PN.
- Individuals must be taught to monitor closely for blisters and other potential damage to their feet, both before and after exercise.
- A diabetes identification bracelet or shoe tag should be clearly visible when exercising.

Part 4 -

This addresses the critical issue of hydration in patients with diabetes who are exercising.

Hydration During Exercise for Diabetics

Proper hydration is also essential, as dehydration can effect blood glucose levels and heart function adversely.

- Exercise in heat requires special attention to maintaining hydration. Adequate hydration prior to exercise is recommended (e.g., 17 ounces of fluid consumed 2 h before exercise).
- During exercise, fluid should be taken early and frequently in an amount sufficient to compensate for losses in sweat reflected in body weight loss, or the maximal amount of fluid tolerated.
- Precautions should be taken when exercising in extremely hot or cold environments.
- High-resistance exercise using weights may be acceptable for young individuals with diabetes, but not for older individuals or those with long-standing diabetes.
- Moderate weight training programs that utilize light weights and high repetitions can be used for maintaining or enhancing upper body strength in nearly all patients with diabetes.

Part 5 -

This draws material from the Diabetic Exercise Template which is specific for this patient and displays it for the patient's benefit.

Possible Diabetic Contraindications to Exercise

Risk Factors for CAD

- Hypertension
- Dyslipidemia

Retinopathy

Level of Retinopathy - Mild NPDR

As a result of your retinopathy status, the activities listed below are ACCEPTABLE forms of exercise.

Dictated by medical status

As a result of your retinopathy status, the activities listed below are DISCOURAGED forms of exercise.

Dictated by medical status

Peripheral Neuropathy

Peripheral Neuropathy - Present

As a result of your peripheral neuropathy status, the activities listed below are ACCEPTABLE forms of exercise.

- Swimming
- Bicycling
- Rowing
- Chair exercises
- Arm exercises
- Non-weight-bearing exercises

As a result of your peripheral neuropathy status, the activities listed below are DISCOURAGED forms of exercise.

- Treadmill
- Prolonged walking
- Jogging
- Step exercises

Nephropathy

As a result of your nephropathy status, you should AVOID high-intensity or strenuous levels of exercise.

Part 6 -

This displays the recommended exercise on the basis of your choice made according to the algorithm above.

Recommended Exercise

Intensity Level - Moderate

Your maximum heart rate is 147.0 beats per minute. Based on the recommended intensity level, your target heart rate during exercise is between 80 and 101 beats per minute.

Part 7 -

This gives the Borg Rating of Perceived Exertion for the patient to report to their subjective

judgment of their exercise program.

You should exercise at a Borg Rating Perceived Exertion of 12-13. See the key below.

Borg's Ratings of Perceived Exertion (RPE)

6	No exertion at all
7-8	Extremely light (very, very light)
9-10	Very light (warm-up/recovery)
11	Light
12-13	Moderate
14-15	Hard
16-17	Very hard
18-19	Extremely hard
20	Maximum all-out effort with absolutely nothing being held in reserve

Exercise is critical for the patient with diabetes; it is equally critical that it be done safely. You can help patients by prescribing proper exercise for them.