



## Diabetes Type II (Treatment Protocol)

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Lifestyle Medicine

### Water

- Drink at least 1 ounce of water daily for every 2 pounds that you weigh. (If you weigh 128 pounds, you need to drink at least 64 ounces, or 8 cups of water, daily)
- Drink at least 2 cups of water upon arising in the morning.
- Do not drink within ½ hour before meals and 1 hour after meals.
- Avoid very hot or very cold water.
- Avoid drinks (like sodas, coffee, juice, milk, beer, wine, etc.) other than water and herbal teas.

### Exercise

- Take a walk after each meal, even if you can only walk for 10-15 minutes. A thirty-minute walk would be great. One research study showed that each minute of moderate intensity exercise immediately after a meal reduces the after-meal glucose spike by 3 points. (Moderate intensity means that you can talk while you are exercising, but you cannot sing. Low intensity means that you can sing while exercising, and high or vigorous intensity means that you have difficulty talking while exercising.)
- Maintain a regular cardiovascular exercise routine (walking, swimming, biking, hiking, gardening, etc.). Cardiovascular exercise has shown to significantly reduce insulin resistance and blood glucose levels. You should exercise at least 5-6 days weekly. Begin with an exercise level that is comfortable for you, and each day do a little bit more or go a little bit farther than before. Work up to about 1 hour of exercise daily.
- Maintain a regular resistance exercise routine (resistance bands, weights, etc.). Resistance exercise has been shown to significantly reduce blood glucose levels as well, with some research studies indicating a greater reduction in blood glucose than cardiovascular exercise. Plan for at least 2 days resistance exercise weekly, working all major muscle groups (arms, shoulders, back, chest, abdomen, glutes/thighs, and legs). Begin with a weight or resistance that you can easily lift 15 times, then repeat another 15 times. Do this for every muscle group. Once you can do the routine without getting sore, increase the weight slightly so that you can lift the new weight at least 10 times without significant difficulty. Repeat another 10 times (2 sets) for each muscle group. As you strengthen, you can increase the number of times you lift the weight (up to 15 again), and then increase the weight again. As you increase muscle mass, you will lose fat mass, and your insulin resistance will decrease. You will also gain agility and balance in the process.
- Avoid very vigorous exercise within a couple hours of mealtimes.

### Live Temperately

- Avoid even a drop of caffeinated or alcoholic beverages, as these (among other negative things) increase empty calories and increase blood glucose levels.
- Avoid overeating at any meal. Only eat until you feel satisfied, not “full” or “stuffed.”
- Avoid staying up late at night, as studies have shown that sleep deprivation can cause diabetes.

## Love

- Spend time every morning in nature with God. Stay in prayer until you know you have given Him your burdens and you are not carrying them anymore. Ask Him to reveal Himself and His love to you.
- Read from the Bible with the purpose to know who God is and what His love looks like.
- Get involved in outreach activities (ministering to those in nursing homes, hospitals, orphanages, homeless shelters, etc.). Helping others who have it “worse off” than you helps you to heal.
- Try to be the most loving person on the planet, with God helping you to accomplish it.

## Nutrition

- Start with a water fast (only drinking water). Check your blood glucose levels (finger stick) every morning before eating or drinking anything other than water. Continue your water fast until your morning blood glucose level is below 90mg/dl. But check with your doctor first. Some health conditions and medications will cause serious problems if you fast. If you take diabetes medications while you fast, you will likely develop hypoglycemia (too low blood glucose levels), which could be fatal, so do not try to fast unless you are off medications and/or you are working closely (daily) with your physician.
- Eat a whole-foods, plant-based diet (whole grains, fruits, vegetables, nuts, seeds, beans, peas, lentils, and starchy roots).
- The foods least likely to cause your blood glucose levels to go up are the following in the following order: raw green leafy vegetables (kale, collards, spinach, etc.), cooked green leafy vegetables, raw vegetables (sweet peppers, celery, broccoli, etc.), cooked vegetables, cooked or raw legumes (beans, peas, lentils), roots & squashes (sweet potato, carrot, beet, summer squash, pumpkin, acorn squash, etc.), nuts & seeds (flax, almond, walnut, pumpkin, etc.), cooked whole grains (brown rice, oatmeal, barley, whole grain pasta, etc.), baked whole grains (breads), raw low-glycemic fruits (kiwi, grapefruit, granny-smith apples, berries), and other raw fruits.
- Avoid processed foods (white flour/bread/pastries, white rice, sugary or fatty foods, sweeteners, etc.).
- Agaricus mushrooms (button mushrooms are in the agaricus mushroom family) have been shown to decrease insulin resistance in Type II diabetics.
- Alpha-Lipoic Acid (ALA) has been shown to increase insulin sensitivity, fasting blood glucose levels, and glucose disposal in patients with Type II Diabetes. ALA is found in flax, chia, spinach, broccoli, potatoes, yams, carrots, beets, and yeast.
- Flaxseed (linseed), has been shown to reduce fasting blood sugar and hemoglobin A1c levels in patients with Type II Diabetes. I recommend taking 2 tablespoons of freshly ground flax seed daily.
- Eating oats and oat bran for 6 weeks significantly decreases before-meal blood glucose, 24-hour blood glucose, and insulin levels in people with Type II Diabetes.
- Eating the boiled stems of prickly pear cactus can decrease blood glucose levels in Type II Diabetics.
- Soy has also been shown to decrease glucose levels in Type II diabetics.
- Avoid spicy foods (hot curry, cayenne, black/white pepper, jalapeño, etc.).
- Avoid high-fat foods (oils, dressings, meat, margarines, butter, cheese, etc.).
- Eat only two meals daily, with a large breakfast and medium-size lunch.
- No meals within 3 hours of bedtime or naps.
- No snacks (except water or herbal teas without sweetener).
- Eat only enough to feel satisfied, but not “full” or “stuffed.”

## Environment

### Sunshine

- Get 15-30 minutes (minimum) of sunshine during the day, depending upon your complexion. Low vitamin D levels are associated with increased risk for developing diabetes, and greater difficulty in controlling blood glucose levels in those with diabetes.

- Do not burn.
- Avoid the use of creams, oils, etc. on the skin during sun exposure.
- The following factors increase the amount of vitamin D production:
  - 1) More skin exposed (the skin on your back has a greater capacity to produce vitamin D than other body surfaces)
  - 2) Lying down or sitting (more direct exposure of your skin to the sun)
  - 3) Mid-day sunshine
  - 4) Summer time sunshine
  - 5) Lighter skin
  - 6) Remaining warm after sun exposure

### Thought Life

- “Let this mind be in you which was also in Christ Jesus.” Philippians 2:5
- “Finally, brethren, whatever things are true, whatever things *are* noble, whatever things *are* just, whatever things *are* pure, whatever things *are* lovely, whatever things *are* of good report, if *there is* any virtue and if *there is* anything praiseworthy—meditate on these things.” Philippians 4:8
- “...bringing every thought into captivity to the obedience of Christ...” 2 Corinthians 10:5
- “in everything give thanks; for this is the will of God in Christ Jesus for you.” 1 Thessalonians 5:18
- There is a strong connection between the mind and the endocrine organs, like the pancreas. One’s thinking (stress, loss, etc.) has a direct impact upon the function and health of the endocrine system. So choose positive thoughts.
- Thoughts generate electricity in the cortex of the brain, and those electrical signals are carried via axons/nerves to the various parts of the body. Those electrical signals provide the energy stimulation needed by the cells of the body to function properly. If the thoughts are right, the electrical signals will provide the proper stimulation for the proper function of the cells. If the thoughts are not right, the improper stimulation of the cells can lead to dysfunction.
- Negative thought patterns include—but are not limited to—thoughts of guilt (I brought this upon myself... I’m such a bad person... What did I do to deserve this... etc.), thoughts of fear (What if I die... What if this gets worse and I can’t do anything... What will my family do without me... etc.), thoughts of failure (I just can’t do it... It seems impossible for me to get well... this isn’t going to work... etc.), and thoughts of isolation (I’m all alone in this thing... No one understands what I’m going through... I just want to be alone... etc.).
- Overcoming negative thought patterns is not accomplished by trying to not think about the negative thoughts. It is accomplished by actively thinking about something else. This is because you cannot empty your mind (your mind was created to be occupied), nor can you focus on two things at one time (no matter how good of a multitasker you believe you are). To overcome negative thinking, you must actively practice positive thinking. You must think about something else. There is nothing that we know of that serves this purpose better than Bible promises.
- Do you feel guilty? Try 1 John 1:9, John 3:16, or Romans 5:6. Do you fear? Try Isaiah 41:10, Psalm 34:7, or Isaiah 54:17. Do you worry about failing? Try Philippians 4:13, Jude 24, or 1 Corinthians 10:13. Do you feel isolated? Try Jeremiah 31:3, Hebrews 13:5, or Nehemiah 9:31. In essence, identify the negative thoughts or thought patterns that you deal with, and then look for Bible promises that speak to your heart the truth, which is opposite of the negative thoughts.
- Write the Bible promise on a 3X5 card, and below it, write a prayer of faith. You could use this pattern: “Lord, thank you for giving me the truth of Your Word. I choose to believe \_\_\_\_\_ (that I am forgiven... that I have no need to fear... that I can overcome... that I am not alone... etc.) because You said so. Thank you for \_\_\_\_\_.” (forgiving me... giving me your peace... helping me to overcome... always being with me... etc.). Every time you recognize that you have the negative thought

or feeling, you have 4 seconds to pull out your 3X5 card and begin reading it out loud, concentrating on what you just read. If you finish reading and the thought/feeling is still there, do it again, and again, and again until it is gone or until you are distracted by something else. Consistency is important in overcoming negative thought patterns.

### Air

- Get outside in the fresh air and breathe deeply.
- Maintain proper posture at all times.
- Practice deep breathing regularly. For this, breathe in for a moderately slow count of 4, hold your breath for a count of 7, and breathe out for a count of 9. Repeat 10 times in a row. Do this exercise 3-5 times daily.

### Nature

- If possible, get out into nature and spend time relaxing in God's creation.
- If you can't get out, buy plants and flowers for the home to beautify your surroundings and clean the air inside.

### Dress

- Avoid any clothing that is tight on the abdomen (tight belts, garters, body shapers, etc.).
- Wear clothing that covers the extremities as well as it covers the body. This allows for even circulation of the blood and decreases the amount of congestion of blood in the central organs, including the pancreas and liver.

## **Sufficient Rest**

- Research indicates that adults need between 7 and 9 hours of sleep each night to maintain proper health. Teenagers need about 9-10 hours, children need 11-12 hours, and infants need even more.
- One research study showed that you can take healthy college-age volunteers and sleep-deprive them (4 hours nightly for 2 weeks), and they will develop early signs of diabetes, so make sure you get your rest.
- Sleep before midnight is twice as restorative than sleep after midnight, so get to bed early (around 9 pm). This matches best with the natural variations in the secretion of melatonin, your circadian rhythm "hormone."
- Have a regular time for sleep, and stick to it, even on weekends and vacations.
- Develop a restful bedtime routine that helps you to "wind down." This may include spiritual or inspirational reading, but nothing exciting or distressing.
- Avoid electronics within 1 hour of bedtime, as research indicates that looking at electronics during that time disrupts one's ability to go to sleep.
- Make sure your room is cool, dark, quiet, and comfortable.
- If you still have difficulty sleeping, you can try a foot massage or warm bath before bedtime, or you can put an ice pack behind your neck as you are going to sleep.
- Avoid vigorous exercise within 3 hours of bedtime, as this will make it more difficult to go to sleep.
- You can also try some "sleepy teas," including hops, lavender, chamomile, peppermint, skullcap, passionflower, wild lettuce, and/or valerian.

## **Simple Trust in God**

- Research indicates that those who belong to a faith community and attend religious services at least 4 times monthly live on average 4-14 years longer than their counterparts. So, believe, attend, and live.

- Trust in God is the most important component of health. You and I cannot maintain a consistent healthy lifestyle on our own, we need a power outside and above ourselves to help us to be successful, and that power is God, and God is love.
- Trust in God gives us the proper perspective for maintaining a healthy lifestyle – specifically that God loves you, created you, died to save you, and wants you to love Him in return and take good care of the body that He made and died for, so that you can show your love to Him by loving and serving others. And our ability to love and serve others is directly tied to our health.
- Like any relationship, your relationship with God requires time and effort to grow. God is interested in you, and wants to spend that time with you, and He is looking for you to be interested in Him and want to spend that time with Him as well. Remember when you were dating, how you would sacrifice to spend time with the one you loved. It didn't seem like a sacrifice, because you were in love with them. The same will be true of you and God when you love Him—you will want to spend time with Him and learn more about Him.
- Early in the morning, spend time in prayer, talking to God about your wants, needs, and concerns. Ask for forgiveness for your sins, and recite His promises of forgiveness and help. Trust that His promises are true for you and accept His help in your life. Don't leave that prayer time until you know you are forgiven, that He is helping you, and that you have His peace.
- Spend time every day reading from the Bible, seeing it as God's love letter to you.
- Memorize at least one Bible promise weekly. You can write the promise on a card and carry it with you, reading it whenever you have free time, and concentrating on what it means.
- Ask the Lord to give you opportunities to help/serve others, and then be active in finding/initiating service opportunities. Those who help others find that they are helped tremendously themselves.
- Learn some songs of praise to God and sing them during your day. You can even make up some songs of your own.
- Give thanks to God for His blessings. Keep a journal, and every day, write down 10 things you will be thankful for today. Try to not repeat items and see how big of a list you can generate. Research shows that gratefulness is healing.

### Herbs/Supplements

- The following herbs may come in various forms. For herbs used in tea, typical doses are one teaspoon to one tablespoon of herb per cup of water. If several herbs are used together, it is still one teaspoon to one tablespoon of herb per cup of water (if you have two herbs, you put one teaspoon of herb #1 and one teaspoon of herb #2 in two cups of water, if three herbs, you put one teaspoon of herb #1, one teaspoon of herb #2, and one teaspoon of herb #3 in 3 cups of water). Usually, one drinks about 4 cups of herbal tea daily.
- Roots and barks are boiled for 20 minutes, leaves and stems are simmered for 20 minutes, and others (powders, flowers, etc.) are steeped for 20 minutes.
- If you are using a tincture, the typical dose is one dropper full.
- If you are using capsules or tablets, you simply refer to the directions on the bottle, unless otherwise specified.
- The following are a list of different herbs that have been shown to treat Type II Diabetes:
  - American Ginseng (3 grams up to 2 hours before meals) has been shown to significantly reduce after-meal glucose levels in people with Type II Diabetes.
  - Astragalus, in combination with other Chinese herbal preparations, has been shown to decrease glucose levels in people with Type II Diabetes. One study looked at a dose of 40 grams daily.
  - Some clinical evidence shows that taking Berberine (the active ingredient in Goldenseal, European Barberry, Goldthread, Oregon Grape, Phellodendron, and Tree Tumeric), 500 mg twice daily for 3 months can reduce hemoglobin A1c, fasting blood glucose, and after-meal glucose in subjects with Type II Diabetes.

- Taking Blond Psyllium seed husk orally seems to significantly reduce postprandial serum glucose and insulin levels.
- Taking Chromium Picolinate orally can decrease fasting blood glucose, insulin levels, and hemoglobin A1c, as well as increase insulin sensitivity in people with Type II Diabetes.
- Taking Fenugreek seed improves measures of blood glucose control such as after-meal and fasting blood glucose levels, glucose tolerance test results, and 24-hour urinary glucose in patients with Type II Diabetes. Studies have looked at doses between 5 and 50 grams powdered fenugreek seed added to 1 or 2 meals daily, or fenugreek seed extract 1 gram daily.
- Gymnema Silvestre
- Ivy gourd, eaten fresh, or in supplement form, has been shown to improve glucose control in patients with Type II Diabetes. One study looked at taking 20 grams of ivy gourd leaves with breakfast daily, and the other looked at taking 3 tablets twice daily.
- Higher dietary Magnesium intake is associated with lower fasting insulin concentrations in adults and obese children and a reduced risk of developing Type II Diabetes. Magnesium can be found in whole grain breads, beans, nuts, cooked spinach, and bananas.
- In clinical research, taking the Milk Thistle constituent Silymarin (200 mg three times daily) appears to significantly decrease fasting blood glucose and hemoglobin A1c (HbA1c) compared to placebo in patients with Type II Diabetes.
- In one clinical study, powdered White Mulberry Leaf, 1 gram three times daily for 4 weeks reduced fasting blood sugar levels by 27%.
- Taking Xanthan Gum orally seems to lower blood glucose and cholesterol in people with diabetes.

### Treatments

- Fomentations to the pancreas – The pancreas is located in the upper, middle abdomen, just below the breastbone, behind the stomach. Fomentations should be performed most days of the week. Fomentations are performed as per the directions in the *Fomentations* handout, which can be located online at [www.ucheepines.org](http://www.ucheepines.org). Look for the section called Counseling Sheets, and search for the Fomentations handout.

### Other Considerations

- Measure a fasting blood glucose daily (early morning before eating/drinking anything other than water – if you are on medications or are a “brittle” diabetic, measure just before and 2 hours after meals and before bedtime as well). You want your fasting glucose to be below 90 mg/dl each morning. Monitor what you eat, when you eat it, how much of it you eat, and how much & when you exercise and correlate it with your fasting glucose the following day. If you are able to consistently maintain a fasting glucose below 90, you will reverse your diabetes or pre-diabetes.
- Lose weight, as this decreases the amount of fat. Fat is a metabolically active tissue and releases a hormone, resistin, when one is overweight or obese. Resistin contributes to insulin resistance, and elevated blood glucose levels. When the fat content decreases, so does the resistin production, and insulin sensitivity improves.



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