

## Insulin Resistance Diagnosis

1. **Waist circumference:**
  - a. More than **40 inches** for **men**.
  - b. More than **35 inches** for **women**
2. **BMI** greater than **25**
3. **Blood Pressure** greater than **130/85**
4. Blood Work:
  - a. **Triglyceride** levels higher than **150 mg/dl**
  - b. **HDL** less than **40 mg/dl** for men and less than **50 mg/dl** for women
  - c. **Fasting glucose** levels between **110** and **126 mg/dl** or A fasting glucose greater than 90 mg/dL is suspicious for insulin resistance while levels greater than 103 are definitive for significant insulin resistance and likely eventual Type II Diabetes.
  - d. Two hour glucose challenge greater than 140 mg/dl
  - e. **LDL/HDL ratio greater than 3.5.**
  - f. **Cholesterol/HDL ratio greater than 5.0.**
  - g. Uric Acid greater than 5.5
  - h. **HDL 25% of Total Cholesterol**
  - i. **Triglyceride levels=or exceeding Cholesterol levels.**
5. Other risk factors including:
  - a. Family history of Type II diabetes, hypertension or coronary vascular disease
  - b. Polycystic ovary syndrome
  - c. Sedentary lifestyle
  - d. Advancing age
  - e. Ethnic groups having high risk for Type II diabetes or coronary vascular disease. These include African American, Native American, Asian and Hispanic ancestry.
6. A combination of high triglycerides, low HDL, hypertension, obesity, and a fasting glucose greater than 90 mg/dL is suspicious for insulin resistance. Levels greater than 103 are definitive for significant insulin resistance and likely eventual Type II Diabetes.

Insulin resistance involves high cholesterol, high blood insulin levels, excess body fat around the waist, high blood pressure and glucose intolerance or insulin resistance. Insulin resistance places a person at a significantly greater risk for having a heart attack, stroke or diabetes.

Recent studies have shown that even though blood pressure medication lowers blood pressure, damage is still occurring. The actual risk of having a heart attack remains high. This is because the underlying source of the problem, insulin resistance, is still untreated.

High insulin levels can also cause blood to clump more easily and block an artery to the brain causing a stroke.

Insulin resistance can be considered prediabetes because insulin resistance often leads to Type II diabetes. The insulin supply from the pancreas eventually wears out from all the years of compensating for high carbohydrate foods. Studies reveal that diabetes is in the making seven years before it can be clinically diagnosed. This means that if insulin resistance symptoms were recognized early enough, most Type II diabetes could be prevented. How many of you think that it's better not to wait till you have diabetes to do something about it? Diabetes can lead to heart attack, blindness and loss of limbs.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

### Are You at Risk for Insulin Resistance?

This questionnaire will help identify your risks of Insulin Resistance and the metabolic health complications associated with it. It is based on the 2001 National Institutes of Health Guidelines for screening for Insulin Resistant Syndrome, a condition also known as Syndrome X, Dysmetabolic Syndrome, or Metabolic Syndrome.

**Directions:** For each YES answer, circle the assigned points and total for the score for each section

(A, B & C). Then add up all 3 sections to get your **Insulin Resistance Total Risk Score**.

#### SECTION A – Family History

Has anyone in your close family (parents, siblings, grandparents, blood aunts/uncles) had:

<i>Point Score</i>	
10	Type II diabetes or adult-onset diabetes?
10	Heart attack?
10	Stroke?
10	Atherosclerosis (clogging or hardening of the arteries)?
10	High blood pressure?
10	Are of Native American, Hispanic, Asian or African American descent?
10	Significant overweight problems? (more than 50 pounds overweight)
8	Moderate overweight problems? (30 - 50 pounds overweight)
10	Gout?
2	Blood clots in legs or lungs?
2	Breast, uterine or ovarian cancer?
1	Osteoarthritis (arthritis of aging)?

Section A  
TOTAL \_\_\_\_

## SECTION B – Nutritional Factors

DO YOU:

*Point Score*

- 8 Have a sedentary life style and do little or no exercise?
- 8 Find you cannot lose weight even on a low fat diet?
- 10 Have to eat frequently, graze or nibble all day to keep up your energy?
- 10 Notice that sugary and starchy foods make you tired or irritable?
- 6 Use caffeine to pep up your energy?
- 8 Find that you *initially* feel better after eating carbohydrates?
- 10 Get up in the middle of the night to eat (especially carbohydrate foods)?
- 20 Become shaky, irritable or have problems thinking, that go away when you eat?
- 10 Feel better when you don't eat?

Section B  
TOTAL \_\_\_

## SECTION C – Your Health Profile

### DO YOU:

*Point Score*

- 190** Have type II diabetes or borderline diabetes?
- 10** Gain weight around your abdomen (apple shaped)?
- 5** Have a BMI (Body Mass Index) between 25 and 27? (See BMI chart)?
- 8** Have a BMI (Body Mass Index) between 28 and 30? (See BMI chart)?
- 60** Have a BMI over 30? (See BMI chart)?
- 10** Have now or ever had high blood pressure?
- 20** Have now or ever had high total cholesterol levels (more than 230)?
- 20** Have now or ever had high triglyceride levels (more than 150)?
- 10** Have a history of having a stroke or heart attack?
- 20** Have fleshy little “skin tags” on your neck or face, underarms, inner thighs, under your breasts or on your eyelids?
- 20** Have a history of gout?
- 20** Have an abnormal glucose tolerance test or felt poorly *during* the test?
- 20** Have problems with low blood sugar (hypoglycemia)?
- 5** Have problems with poor circulation of your feet or hands?
- 5** Have a history of blood clots in your lungs or legs?
- 4** Have osteoarthritis (arthritis of aging)?
- 4** Do you smoke more than 10 cigarettes a day?
- 20** Have extreme fatigue after eating, especially in the afternoon or evening?
- 5** Are you between 45 and 60 years of age?
- 10** Are you older than 60 years?

*The following questions apply only to women:*

- 20** Have a history of gestational diabetes during pregnancy?
- 20** Have a history of having a baby that weighed more than 9 pounds?
- 10** Have a history of toxemia or pre-eclampsia during pregnancy?
- 8** Have a history of high blood pressure during pregnancy?
- 20** Have now or a history of polycystic ovaries (called PCOS)?

**Section C TOTAL** \_\_\_

Section A \_\_\_\_\_ + Section B \_\_\_\_\_ + Section C \_\_\_\_\_ = \_\_\_\_\_  
TOTAL

#### RISK SCORE

#### TOTAL Insulin Resistance Risk Score Interpretation:

**60 – 90** Stage I. This *early stage* suggests that you may be at risk for developing Insulin Resistance.

**91 – 120** Stage II. You have an *above average risk* of developing Insulin Resistance.

**121 – 150** Stage III. You are already *showing definite signs* of Insulin Resistance.

**151 – 180** Stage IV. You have signs of *moderate degree* Insulin Resistance.

**Greater than 180** Stage V. This value is very concerning for *severe Insulin Resistance*.

Type II diabetes and cardiovascular diseases are definite health risks for you.

Aggressive management of Insulin Resistance is encouraged.

## How to Figure Out Your Body Mass Index (BMI)

Find your current weight (in pounds) in the left column. Then find your height (in total inches) across the top column. Intersect the two inside the graph. The number where these meet is your **BMI (Body Mass Index)**.

### What Does Your BMI Level Mean?

**Normal BMI is considered 22-26. BMI levels greater than 30** are associated with high levels of severe, life threatening health problems due to being overweight. **A BMI level between 27-29**, along with having high blood pressure, high cholesterol, Type 2 diabetes, heart disease, or a stroke increases your health risks just as if your BMI was above 30.

	60"	61"	62"	63"	64"	65"	66"	67"	68"	69"	70"	71"	72"	73"	74"	75"	76"
100	20	19	18	18	17	17	16	16	15	15	14	14	14	13	13	12	12
105	21	20	19	19	18	17	17	16	16	16	15	15	14	14	13	13	13
110	21	21	20	19	19	18	18	17	17	16	16	15	15	15	14	14	13
115	22	22	21	20	20	19	19	18	17	17	17	16	16	15	15	14	14
120	23	23	22	21	21	20	19	19	18	18	17	17	16	16	15	15	15
125	24	24	23	22	21	21	20	20	19	18	18	17	17	16	16	16	15
130	25	25	24	23	22	22	21	20	20	19	19	18	18	17	17	16	16
135	26	26	25	24	23	22	22	21	21	20	19	19	18	18	17	17	16
140	27	26	26	25	24	23	23	22	21	21	20	20	19	18	18	17	17
145	28	27	27	26	25	24	23	23	22	21	21	20	20	19	19	18	18
150	29	28	27	27	26	25	24	23	23	22	22	21	20	20	19	19	18
155	30	29	28	27	27	26	25	24	24	23	22	22	21	20	20	19	19
160	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21	20	19
165	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21	20
170	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21
175	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21
180	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22
185	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23
190	37	36	35	34	33	32	31	30	29	28	27	26	26	25	24	24	23
195	38	37	36	35	33	32	31	31	30	29	28	27	26	26	25	24	24
200	39	38	37	35	34	33	32	31	30	30	29	28	27	26	26	25	24
205	40	39	37	36	35	34	33	32	31	30	29	29	28	27	26	26	25
210	41	40	38	37	36	35	34	33	32	31	30	29	28	28	27	26	26
215	42	41	39	38	37	36	35	34	33	32	31	30	29	28	28	27	26
220	43	42	40	39	38	37	36	34	33	32	32	31	30	29	28	27	27
225	44	43	41	40	39	37	36	34	33	32	32	31	30	29	28	27	27
230	45	43	42	41	39	38	37	36	35	34	33	32	31	30	30	29	28
235	46	44	43	42	40	39	38	37	36	35	34	33	32	31	30	29	29
240	47	45	44	43	41	40	39	38	36	35	34	33	33	32	31	30	29
245	48	46	45	43	42	41	40	38	37	36	35	34	33	32	31	31	30
250	49	47	46	44	43	42	40	39	38	37	36	36	34	33	32	31	30