

Berlin Questionnaire

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1. Complete the following:

height _____ age _____

weight _____ male/female _____

2. Do you snore?

- yes
- no
- don't know

If you snore:

3. Your snoring is?

- slightly louder than breathing
- as loud as talking
- louder than talking
- very loud. Can be heard in adjacent rooms.

4. How often do you snore?

- nearly every day
- 3-4 times a week
- 1-2 times a week
- 1-2 times a month
- never or nearly never

5. Has your snoring ever bothered other people?

- yes
- no

6. Has anyone noticed that you quit breathing during your sleep?

- nearly every day
- 3-4 times a week
- 1-2 times a week
- 1-2 times a month
- never or nearly never

7. How often do you feel tired or fatigued after your sleep?

- nearly every day
- 3-4 times a week
- 1-2 times a week
- 1-2 times a month
- never or nearly never

8. During your waketime, do you feel tired, fatigued or not up to par?

- nearly every day
- 3-4 times a week
- 1-2 times a week
- 1-2 times a month
- never or nearly never

9. Have you ever nodded off or fallen asleep while driving a vehicle?

- yes
- no

If yes, how often does it occur?

- nearly every day
- 3-4 times a week
- 1-2 times a week
- 1-2 times a month
- never or nearly never

10. Do you have high blood pressure?

- yes
- no
- don't know

Name _____

Address _____

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category 1

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category 2

10. Do you have high blood pressure?

- yes
- no
- don't know

BMI =

category 3

Scoring Questions:

Any answer within black box outline is a positive response.

Scoring Categories:

- Category 1 is positive with 2 or more positive responses to questions 2-6
- Category 2 is positive with 2 or more positive responses to questions 7-9
- Category 3 is positive with 1 positive response and/or a BMI >30

Final Result:

Two or more positive categories indicates a high likelihood of sleep disordered breathing.

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Name _____

Address _____




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RESPIRONICS

Body Mass Index Table

		Weight in Pounds													
Height	4-10 →	91	96	100	105	110	114	120	124	129	134	139	143	167	191
	4-11 →	94	99	104	109	114	119	124	129	133	138	143	148	173	198
	5-0 →	97	102	108	112	118	123	128	133	138	143	149	153	179	204
	5-1 →	100	106	111	116	122	127	132	137	143	148	153	158	185	211
	5-2 →	104	109	115	120	126	131	136	142	147	153	158	164	191	218
	5-3 →	107	113	118	124	130	135	141	147	152	156	163	169	197	225
	5-4 →	111	116	122	128	134	140	145	151	157	163	168	174	204	233
	5-5 →	114	120	126	132	138	144	150	153	162	168	174	180	210	240
	5-6 →	118	124	130	136	142	148	155	161	167	173	179	185	216	248
	5-7 →	121	127	134	140	147	153	159	166	172	178	185	191	223	255
	5-8 →	125	131	138	144	151	158	164	171	177	187	190	197	230	263
	5-9 →	128	135	142	149	155	162	169	176	183	189	196	203	237	270
	5-10 →	132	139	146	153	160	167	174	181	188	195	202	209	249	278
	5-11 →	136	143	150	157	165	172	179	186	193	200	208	215	250	286
	6-0 →	140	147	155	162	169	177	184	191	199	206	213	221	258	294
	6-1 →	144	151	159	166	174	182	190	197	204	212	219	227	268	303
	6-2 →	148	155	163	171	179	187	194	202	210	218	225	233	272	311
	6-3 →	152	160	168	176	184	192	200	208	216	224	232	240	279	319
	6-4 →	156	164	172	180	189	197	205	213	221	230	238	246	287	328
			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
		19	20	21	22	23	24	25	26	27	28	29	30	35	40
		BMI													

1. Look down the left column to find patient's height in feet and inches.
2. In the same row, find the number closest to the patient's weight in pounds.
3. BMI appears at the bottom of the column below the patient's weight.

Note: To calculate BMI with kilograms and meters use this formula: $BMI = \text{weight (kg)} / \text{height (m)}^2$

Berlin Questionnaire overview and instructions

Purpose

The Berlin Questionnaire is a validated patient survey that helps to identify Obstructive Sleep Apnea (OSA). It was developed in 1998 at a medical conference in Berlin, Germany, by a group of family practice physicians and sleep researchers.

The purpose of the Berlin Questionnaire is twofold: to identify patients who are at high risk for OSA and to identify those snoring patients who have a low risk for OSA. It is a simple, self-administered patient questionnaire and a validated predictive assessment tool designed to assess three OSA risk categories:

- the presence and frequency of snoring behavior
- wake time sleepiness or fatigue
- a history of obesity and/or hypertension

Instructions for use

Step 1: Have patient complete questionnaire. Using the NCR form, the patient needs to press down for marks to register on all three pages.

Step 2: Using the NCR form, the medical professional removes the top copy (white) and scores page two (yellow).

How to score a questionnaire

Once you have removed the top, white copy, you will see that the scoring is divided into three categories marked in blue. The positive questions are framed within the black box outline; negative questions are not framed.

Category 1 evaluates sleep and snoring behavior. If there are two or more answers inside the black boxes, this is considered to be a positive response. Check the box in the lower left-hand corner to indicate a positive category.

Category 2 determines the presence of daytime sleepiness.

If there are two or more answers inside the black box, this is considered to be a positive response. Check the box in the lower left-hand corner to indicate a positive category.

Category 3 assesses patient's history of hypertension and obesity.

Category 3 requires you to calculate the Body Mass Index (BMI) and document if the patient has hypertension. To calculate the BMI, use the chart on the back of the physician copy. If the BMI is greater than 30, it is a positive response. If the patient has a history of hypertension, it is a positive response. Category 3 is considered positive when only one of the two questions is positive.

Step 3: Discussing questionnaire results with patient

A patient has a positive questionnaire if he or she scores "positive" in two or more sections. If two or more sections are positive, discuss with the patient the risks of having untreated sleep apnea and explore the patient's willingness to go to a sleep center for further testing. If the patient is willing, he or she should be directed to a sleep center for further information and additional testing for sleep apnea.

PHILIPS

RESPIRONICS

Summary of validation studies – Berlin Questionnaire

Using the Berlin Questionnaire to Identify Patients at Risk for the Sleep Apnea Syndrome
Netzer, N.C., Stoohs, R.A., Netzer, C.M., Clark, K., Strohl, K.P.
Ann Intern Med 1999;131:485-491

Prevalence of Symptoms and Risk of Sleep Apnea in Primary Care
Netzer, N.C., Hoegel, J.J., Loube, D., Netzer, C.M., Hay, Birgit, Alvarez-Sala, R., Strohl, K.P.
Chest 2003;4:1406-1414

According to Netzer, et al., there is evidence that the prevalence of OSA in primary care offices is higher than in the community. In the 1999 Annals of Internal Medicine study, 744 patients in five primary care sites in Cleveland, Ohio, were surveyed, of whom 100 underwent sleep studies. Of the 744 respondents, 297 (37.5%) were in the high-risk group. The high-risk group for OSA was comprised of patients with persistent and frequent symptoms in two of the following three categories: presence and frequency of snoring; wake-time sleepiness or fatigue; and a history of obesity or hypertension.

Being in the high-risk group predicted an RDI greater than 5 with a sensitivity of 86%, a specificity of 77%, a positive predictive value of 89%, and a likelihood ratio of 3.79.

In the Chest 2003 study, data was collected from 6,223 consecutive patients who were more than 15 years of age, in 40 offices and clinics in the United States, Germany, and Spain. This is the first large data set providing information collected by a standardized protocol on snoring, sleepiness, and other features associated with sleep apnea across many primary care sites.

The results show that one-third of participants (32%) had a high pretest probability for OSA with a higher rate in the United States (35.8% of 3,915 participants) than in Europe (26.3% of 2,308 participants). Other categories measured sleepiness (32.4% vs. 11.8%, respectively), followed by obesity and/or hypertension (44.8% vs. 37.1%), contributed to the OSA risk differences between participants in the U.S. and Europe, as frequent snoring and pauses in breathing were similarly reported.

Conclusion

Primary care physicians in the U.S. and Europe will encounter a high demand for services to confirm or manage sleep apnea, sleepiness, and obesity. The Berlin Questionnaire provides a means of identifying patients who are likely to have sleep apnea.



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