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Blood pressure and life insurance: the critical link

It is safe to assume that most readers of this article will have either said or heard statements similar to "my blood pressure ran high" or "I don't want my blood pressure to rise unnecessarily". On visiting a physician, the first test the attending nurse or doctor will record is blood pressure. Most of us breathe a sigh of relief when we hear that our reading is normal.

When underwriting hypertension and life insurance, an insurance company needs to know about the candidate's medical history and lifestyle with blood pressure readings being an integral part of the underwriting process. Due to the high level of impact which blood pressure has on a life insurance assessment and subsequent policy, it is crucial that its readings are taken seriously by the candidate and medical examiner.

In this article, we offer a perspective on the link between high blood pressure and life insurance underwriting by looking at what constitutes high blood pressure, and its impact on the life insurance assessment.

A closer look at blood pressure

Let us first of all look at the science behind blood pressure. The medium and smaller arteries in our bodies have muscles in their walls so that their lumen can constrict or dilate. This mechanism distributes the flow of blood wherever required. When a meal is digested, the arteries supplying the gut are dilated. During exercise, the arteries to the legs open up and the blood flow to the gut is reduced. The general state of dilation or constriction of the arteries is called arterial tone. Arterial blood pressure is created by pumping blood from the heart into the high resistance of the systemic (body) circulation, which is the product of the cardiac output and total peripheral resistance that is determined by the tone of arterioles. The more the arteries constrict, the greater the peripheral resistance is and the higher the blood pressure is. If the arteries dilate or if less blood circulates (e.g. after a hemorrhage) the blood pressure will fall.

What do the numbers mean?

Everyone would like to have a healthy blood pressure which is expressed as a measurement with two numbers e.g. 120/80, 160/90, 140/95.

The top number (systolic pressure) refers to the amount of pressure in the arteries during contraction of the heart muscle and the bottom number (diastolic pressure) refers to the blood pressure when the heart muscles are between beats. .

Both numbers are important in determining the state of your heart. A number greater than the ideal range indicates that your heart is working too hard to pump blood to the rest of your body.

For a normal reading, your blood pressure needs to show a top number that is between 90 and less than 120 and a bottom number that is between 60 and less than 80.

The table below shows the classification used by the Joint National Committee on Detection, Evaluation and treatment of High Blood Pressure for adults aged 18 years or older.

Classification	Blood Pressure (mmHg)
Diastolic	
Normal Blood Pressure	<85
High Normal Blood Pressure	85-89
Mild Hypertension	90-104
Severe Hypertension	>115
Systolic (When Diastolic BP<90)	
Normal Blood Pressure	<140
Borderline Isolated systolic hypertension	140-159
Isolated systolic hypertension	>=160

Source: Final report of the subcommittee on Definition and Prevalence of the Joint National committee on Detection, Evaluation, & Treatment of High Blood Pressure (1984). Arch Intern Med 1984

There is a general agreement amongst health practitioners and insurers/reinsurers with the WHO proposal that a Systolic blood pressure <140 mmHg, or a diastolic blood pressure <90 mmHg should be called "normal" for classification purposes. However, the American College of Cardiology & the American Heart Association guidelines follow a relatively strict approach. They further segregate the readings as Elevated Systolic 120-129 (mmHg), Highly elevated 130-139 (mmHg) and Elevated Diastole [80-90 (mmHg)].

Individuals who have elevated systolic pressure are considered pre-hypertensive. If they have heart disease, diabetes or a family history of high blood pressure then treatment is recommended.

By consensus, the limit of normal level of blood pressure by insurers and reinsurers for insurance underwriting are shown in the table below. The underwriter must be cautious and apply discretion according to the market from which the business emanates.

Age/Gender	Male	Female
up to 45	130/90 mmHg (17/12 kPa)	140/90 mmHg (19/12 kPa)
Over 45	140/95 mmHg (19/12 kPa)	160/90 mmHg (21/13 kPa)

A reading in the normal range does not require medical intervention, however due attention must be paid to ensure that the selected individual maintains a healthy lifestyle and healthy weight to prevent hypertension from developing. Regular exercise and healthy eating can also help. If hypertension runs in the family, the individual must be especially mindful of his/her lifestyle.

Hypertension carries a number of associated risks

Hypertension is a big risk factor for cardiovascular disease and can be improved by effective treatment of raised blood pressure. Untreated hypertension greatly increases the risk of stroke, angina, cardiac infarction, and renal failure. Morbidity and mortality rise on a time and intensity basis. Thus, the longer the duration of hypertension and the higher the level of pressure, the greater the risk of organ damage. The excess of mortality for a given level of pressure is most clearly seen in young age groups, especially in males.

Danger zone

A blood pressure reading above 180/120 mm Hg indicates a serious health problem. The American Heart Association[1] refers to these high measurements as a "hypertensive crisis." Blood pressure in this range requires urgent treatment even if there are no accompanying symptoms. Symptoms may include:

- chest pain
- shortness of breath
- impaired vision
- symptoms of stroke, such as paralysis or a loss of muscle control in the face or an extremity
- blood in urine
- dizziness
- headache

However, sometimes a high reading can occur temporarily and then the numbers will return to normal. A second reading after a few minutes is required for blood pressure which initially does not give a normal reading. A repeated high reading requires commencement of treatment at the earliest depending on the symptoms (listed above). From an insurance underwriting perspective, all such cases require a postponement period of minimum 6 months until the final diagnosis is established, and a fresh review based on treatment progress and control is done. Lifestyle factors (including smoking, drinking too much alcohol, stress, being overweight) should be considered along with family history, prior to acceptance.

Hypertension Types

Raised blood pressure is broadly classified as Primary, Secondary, Labile, Resistant and Malignant. Here we look briefly at each one.

Primary hypertension

Also known as Essential hypertension, primary hypertension is hypertension whose cause is unknown. Despite years of research on hypertension, a specific cause is not known. It is thought to be a combination of genetics, diet, lifestyle, and age.

Secondary hypertension

Secondary hypertension is generally defined as arising from other causes. We list some of these other causes below:

- Renal parenchymal disease: (Chronic pyelonephritis, Congenital renal disease, diabetes nephropathy, interstitial nephropathy, Glomerulonephritis, polycystic kidney disease, Obstructive uropathy, renin secreting tumors, vasculitis).
- Renal vascular disease: renal artery stenosis, occlusion, or arteriosclerosis.
- Cardiovascular impairment (aortic insufficiency, coarctation of aorta, arteriosclerosis, polyarteritis).
- Central Nervous system Disorders (tumor, injury or inflammation of brain or spinal cord).

[1] www.healthline.com/health/types-and-stages-of-hypertension

- Drugs and Hormones: amphetamines, oral contraceptives, diet aids, stimulants, antidepressants, some over the counter medicine, estrogens, steroids or Thyroid hormone excesses.
- Obstructive sleep apnea.

About 5 to 10 percent of hypertensive cases are of the secondary type with a prevalence of an estimated 30 percent in those aged between 18 and 40.

Resistant hypertension

High blood pressure that is difficult to control and requires multiple medications is referred to as 'resistant hypertension'. Hypertension is considered resistant when the blood pressure stays above the treatment target, despite the subject having used three different types of blood pressure lowering medications, including a diuretic. An estimated 10 percent of people with high blood pressure have resistant hypertension.

Malignant (i.e. accelerated) hypertension

A hypertensive emergency, also called malignant hypertension, is when blood pressure suddenly rises above 180/120 and symptoms, including the below, present themselves:

- chest pain
- headache
- shortness of breath
- dizziness
- visual changes

Often associated with headache, visual defects (retinopathy), renal failure and cardiac decompensation, this is a life-threatening condition. High blood pressure can damage essential organs or cause complications such as an aortic dissection or tear, or bleeding in the brain.

Labile hypertension

Usually refers to unstable blood pressure which fluctuates from normal to elevated levels (e.g. during emotional stress). It generally does not indicate true hypertension.

Systolic hypertension

Systolic hypertension is defined as systolic pressure above 150 mmHg (20 kPa) and diastolic pressure less than 90 mmHg (12 kPa).

This is the most frequent type in older adults. An estimated 15% of people over 60 years of age have isolated systolic hypertension. A large study published in 2015 with an average of 31 years follow-up found that younger and middle-aged people with isolated systolic hypertension were at higher risk of stroke and heart attack compared to those with normal blood pressure.

Hypertension treatment

Lifestyle measures are the same as those for the prevention of vascular disease, namely:

- Stop smoking.
- Reduce the amount of fat in diet.
- Dietary salt to be reduced.

- Avoid overeating and obesity which leads to metabolic syndrome.
- Regular exercise to reduce the risk of obesity, metabolic syndrome and diabetes, and benefit skeletal muscle, the bones, joints and heart.

Drugs: Most patients will require medication. A combination of two or three drugs is given so that smaller doses of each can be used and side effects minimized. The drugs for hypertension act by reducing the arteriolar tone and the circulating blood volume. The main classes are:

- Thiazide diuretics
    - Main purpose is to reduce circulating blood volume and thus cardiac output by removing fluid and salt from the circulation.
    - Drugs belonging to the azide group e.g. Chlorothiazide, Bendrofluazide.
- Beta blockers
    - Main action: complex but reduces the power of cardiac contraction and thus output.
    - Drugs with the suffix "olol" e.g. Propranolol, Atenolol.
- Calcium antagonists
    - Main action: to dilate the arteries by reducing calcium intake into arteriolar cells which has the effect of reducing their ability to contract.
    - Drugs with the suffix: 'dipine' e.g. Nifedipine, Amiodipine.
- ACE inhibitors (Angiotensin-Converting Enzyme inhibitors)
    - Main action: to inhibit the action of ACE which converts angiotensin which is present in the blood in an inactive form (angiotensin I) into its active form (angiotensin II) which causes arteriolar contraction.
    - Drugs with the suffix: 'pril' e.g. Enalapril, Perindopril.
- Angiotensin II antagonists
    - Main action: to antagonise directly the arteriolar constricting effect of angiotensin II
    - Drugs with the suffix , 'sartan' e.g. osartan , Valsartan

In secondary hypertension, treatment is directed at the underlying cause.

The surgical repair of coarctation can sometimes reduce the blood pressure to normal levels. The removal of phaeochromocytoma (tumour of adrenal cell) will cure secondary hypertension arising from the said cause.

The treatment of renal artery stenosis can result in lowering blood pressure. Secondary hypertension should be treated by drugs in the same way as essential hypertension if the treatment of the primary condition has not reduced the pressure to a satisfactory level.

Blood Pressure and Mortality: a converging approach

For many years the life insurance approach to high blood pressure differed from that of the clinician. It remains so in developing and underdeveloped nations. Medical underwriters paid attention to a relatively small increase in mortality, whereas physicians were involved with treating symptoms. More recently the actuarial concern for the adverse effect on mortality of small rises in blood pressure has merged with the

medical attempt to preserve health and increase mortality. This progress is reflected in the history of study of blood pressure in large groups of people; initially the insured population was studied, then both clinical and insurance investigations continued side by side. Now there are many large population studies with an emphasis on the effects of treating raised blood pressure. Throughout all the studies listed below, both medical science and the insurance industry have benefitted.

- Association of Life Insurance Medical Directors of America (ALIMDA) in 1912 by JW Fischer
- Society of Actuaries & ALIMDA joint publication of the First Mortality study according to variation of Blood pressure amongst insured lives in 1925.
- The Blood Pressure study 1939.
- The Build and Blood Pressure study 1959
- The Blood pressure study 1979

All studies showed that mortality gradually increased above 125% for the insured population as blood pressure rose above 140/90 mmHg. The Build and Blood Pressure study 1959 was particularly important because it removed all doubt among clinicians and underwriters that insurance companies might have been too strict in their interpretations of blood pressure, especially at the borderline end of the scale.

The salient feature of the Blood Pressure study 1979, which was like that of the earlier studies, was that even a slight deviation in blood pressure was associated with significantly higher mortality compared to normotensive healthy people. The study contained a particularly interesting section dealing with the effects of antihypertensive treatment. This was one of the earliest studies to report the beneficial effect of treatment on a large general population, and it had far reaching implications for underwriting treated hypertension cases.

Relative Mortality of the Insured lives 1954-72 (all ages combined at various levels of Systolic & Diastolic Pressure, compared with the mortality of standard life insurance risk taken at 100%)

Systolic pressure (mmHg)	Mortality Ratio %		Diastolic Pressure (mmHg)	Mortality Ratio %	
	Men	Women		Men	Women
Under 108	71	83	Under 73	85	87
108-117	77	90	73-77	92	96
118-127	89	93	78-82	99	103
128-137	111	107	83-87	118	114
138-147	135	121	88-92	136	132
148-157	166	135	93-97	169	167
158-167	206	169	98-102	200	181
168-177	218	178	103-117	258	208
178-187	232	278	108-112	244	195

Source : Lew EA Tans Assoc Life Insur Med Dir Am 1980:64:123/ Brackenridge's Medical Selection of Life Risks.

The salient findings of the blood pressure studies was that even slight elevation of blood pressure was associated with significantly higher mortality than that among normotensive healthy people.

Comparative mortality of Treated Hypertension

Systolic Pressure mmHg	Treated Cases %	All Cases %	Diastolic Pressure mmHG	Treated Cases %	All Cases %
108-117	98	77	68-72	92	85
118-127	109	89	73-77	110	92
128-137	109	111	83-87	108	99
138-147	110	135	88-92	122	136
148-157	163	166	93-97	165	169
158-167	231	206	98-102	205	200
			103-107	228	258

Source : Lew EA Tans Assoc Life Insur Med Dir Am 1980:64:123

The mortality ratios of those treated vis-à-vis not treated, who had similar systolic and diastolic blood pressure at the time of application was compared. The study revealed that those being treated for hypertension , irrespective of their pre-treatment blood pressure levels, had ratios equivalent or near to those with normal or unrelated blood pressures.

Effects of Hypertension

Complications from hypertension may not appear for 10-20 years following onset and the severity and nature of complications vary by individual and their lifestyle. Organs can be affected in various ways:

- Heart: Development of Coronary Artery disease, cardiac hypertrophy and decompensation.
- Brain: Hemorrhage, thrombosis and arteriosclerosis (stroke / cerebrovascular accident).
- Kidney: Damage to the renal arterioles with resulting impairment of renal function.
- Eye: Retinal changes such as abnormalities of blood vessel. A-V nipping, hemorrhages and exudates.

How to accurately record blood pressure reading

It is important for the blood pressure to be recorded accurately at the insurance physical examination. Unfortunately, it is not always carried out with the care and attention it deserves, particularly by the casual or inexperienced examiner. Examiners tend to round off levels to the nearest 5 or 10 mmHg. The practice may be less common now than it used to be because the statistical significance of mildly or moderately high blood pressure is more widely appreciated as a risk factor for cardiovascular disease. It is quite clear from many statistical and actuarial studies of mortality experience that significant differences are associated with a reading difference as low as 2 mmHg between actual and recorded.

Systolic pressure is the reading at which sounds are first heard (1st phase) as the blood pressure cuff is deflated. It is now almost universal insurance practice to use the systolic and diastolic fifth phase (cessation of sound) in the construction of blood pressure rating tables. Some companies request the fourth (change of sound) and fifth phases to be recorded (e.g. 136/86-78) as it provides the medical

director with additional information and prevents confusion. This would, however, be an unusual practice in developing and underdeveloped nations.

Difference between systolic and diastolic pressure is termed as pulse pressure, normally in the range of 30-60. Pulse pressure markedly outside this range needs to be referred to the Medical Officer.

Precaution:

- Blood pressure reading for insurance examination should be taken while the applicant is seated.
- Exclude readings taken after exercise.
- If readings are taken from both arms, the higher reading is used. A difference more than 10 mmHg in either systolic or diastolic requires a referral to the medical officer.
- Reported blood pressure readings taken more than 2 years prior to the application are not included in the averages, but if significant as to level and duration, special considerations shall apply.
- Recheck of elevated blood pressure is advisable when examination blood pressure rating exceeds 50% and a history of hypertension, cardiac or renal disease is indicated.

Evaluation of Blood pressure for Rating & Averaging:

When the blood pressure reading obtained on medical examination appears to be ratable in terms of the rating table or above the normal levels (130/90), consideration should be given to obtaining a further series of readings, carried out possibly by an independent observer on another day and recorded in a Hypertension questionnaire.

A series of three readings recorded over a period of about 10 minutes as the applicant rests quietly allows a reasonable, fair representation of the casual blood pressure. In this way, a true assessment of the overall blood pressure status can be made whether the repeat readings are lower, higher or the same as those recorded originally. It is fairer both to the applicant and to the insurance company.

In addition to blood pressure readings obtained at the time of the original medical examination and any repeat examination, other readings must be available to the underwriter from different sources such as the applicant's medical attendant, hospital or clinical reports, or from previous medical examinations by the same or other companies.

Insurance companies can choose one of the below methods to determine the appropriate level of blood pressure for rating purposes.

Method 1:

- Disregard all blood pressure readings taken more than 3 years previously.
- Calculate the average of the blood pressures taken on any one day within the previous 3 months (termed as daily averages).
- Calculate the average of the daily averages for the previous 3 months and call this the current average.

- Calculate the past average by forming the average of all blood pressure readings that are higher than the current average taken within the previous 3 years, excluding the past 3 months.
- Due allowance can be made for past average blood pressures that are higher than the current average by weighting the past average one-third and the current average two-third using the formula
- Rating average = B+1/3(A-B) where

A is Past Average excluding readings lower than current average & B is current average

Example:

Current Average: **160/100**
Past Average Blood pressure: 178/112
Rating average: 160/100+1/3* (178-160)/(112-100) = 160/100+6/4 = **166/104**
155/100, 180/115, 175/110 ,179/111, 160/90
Average blood pressure reading excluding readings lower than the current average
(180+175+179)/3 / (115+110+111)/3

Method 2:

Current Blood Pressure records are the latest blood pressure readings as reported in the medical examination, a blood pressure recheck or usual medical report.

Average together all blood pressure recordings taken on the same day
Example: 1st reading: 140/80 2nd reading: 160/100 3rd reading: 150/90
Average Blood pressure Reading = 150/90

- **Past Blood Pressure records** are readings reported within the last two years prior to the date of the (latest) current examination.
  Average most favorable and most unfavorable reading recorded within the past two years prior to the date of last current examination, disregarding the non-representative readings.
  Most favorable blood pressure reading is the blood pressure unit (systolic/diastolic) with the lowest rating according to the blood pressure rating tables.
  Most unfavorable blood pressure reading is the blood pressure unit (systolic/diastolic) with the highest rating according to the blood pressure rating tables.

- **Combined Current and Past Blood Pressure Record**
  Current Blood Pressure readings – **A**
  Past Blood Pressure readings- **B**

Finding	Example	Rating Basis	Example
A=B	A=160/100 B=160/100	Based on A or B	160/100
A<B	A=170/110 B= 190/120	Average A and B	180/115 (360/2/230/2)
A>B	A=180/105 B=175/100	Based on A	180/105

How a family history of high blood pressure plays a role

Family history of high blood pressure means that a blood relative such as mother, father, sister, or brother has or had a history of high blood pressure before the age of 60.

If one or more close family members has high blood pressure before age 60, it means the other members are at double the risk of having it as well. A strong family history means 3 or more relatives had /have high blood pressure before age 60.

A family history of high blood pressure has been linked to other risk factors for heart disease and stroke. These factors include high cholesterol, high body fat, and being more sensitive to the effects of salt on raising blood pressure in future, even for someone whose blood pressure is currently normal.

Things to be done:

Check blood pressure at least once a year.

Reduce other risks for high blood pressure such as following a healthy diet with less salt, regular exercise and no smoking.

If already under treatment, ensure regular medications and appointments with health care provider.

Hypertension Associated Impairments & Treatment

Hypertension itself carries a risk and along with other associated impairments, the mortality, morbidity and insurance risk increases grossly. The below table serves as a guideline for underwriters to apply suitable rating when hypertension is present with other impairments.

Associated Impairments	
Cardiac Hypertrophy (cardiomegaly)	Refer to Medical Officer/ Reinsurer. Individual consideration based on the Chest X ray and ECG findings
Cerebral Vascular disease	Decline
Diabetes Mellitus	Acceptable for controlled diabetes subject to hypertension rating not exceeding +100 and no suspicion of vascular disease (cardio, cerebral & renal). Refer to the rating for Diabetes and combined rating shall apply.
ECG Abnormalities	Refer to Medical Officer/ Reinsurer. Individual consideration
Family History	Increase hypertension rating by +15 for Two and +30 for Three or more family deaths caused by cardio-vascular or renal disease.
Hyperlipidemia	Hyperlipidemia rating up to 50 : ADD both rating Hyperlipidemia rating above 50 : Refer to Medical Officer/ Reinsurer
Hypertensive Retinopathy	Grading according to Keith Wagener Grade 1: Rate for Hypertension only Grade 2: Add +50 to Hypertension rating Grade 3: Decline
Hyperuricemia (Gout)	Elevated Uric Acid without other gout symptoms: No Additional Rating
Ischemic Heart disease	Refer to Medical Officer/ Reinsurer. Individual consideration based on IHD
Overweight	Ratings of Hypertension and Overweight to be added

Renal Disease	Require careful evaluation and the ratings for hypertension and renal disease are to be added. It is advised to refer the risk to the Medical officer/Reinsurer.
Albuminuria	Refer to medical officer/Reinsurer if diastolic pressure exceeds 100, or urine analysis show red blood cells and or casts.
Hematuria	Refer to medical officer/Reinsurer if renal disease is the cause.
Nephrectomy	Refer to medical officer/ Reinsurer any case. Usually decline if remaining kidney is other than normal.
Tachycardia	Add the ratings
Tobacco use	An increased rating in addition to the combined rating will be required
Treatment	
Dietary Therapy	No additional rating
Drug Therapy	
Sedative & Tranquilizer drugs only	No additional rating
Antihypertensive drugs	Refer to medical officer/Reinsurer any case on multiple anti-hypertensive drug medication. Specific drug and dosage together with the degree of follow up and supervision to be taken into consideration.
Surgical Treatment	Refer to medical officer/Reinsurer all cases of surgical treatment for hypertension (e.g. Adrenalectomy, nephrectomy, renal artery reconstruction). May necessitate an increase to sum of hypertension and surgical procedure, or to decline, depending on the type of operation, and current findings.

Source: Underwriting Manual Trust Re

Blood Pressure ratings for male lives

Diastolic pressire (mmHg)	age	Systolic pressure (mmHg)													
		136-140	141-145	140-150	151-155	150-160	161-165	166-170	171-175	176-180	181-185	186-190	191-195	196-200	201-210
85	under 40	0	0	0	10	25	45	60	85	110	136	165	196	235	335
	40-49	0	0	0	0	0	20	40	60	80	100	125	160	215	300
	50-59	0	0	0	0	0	0	20	40	60	80	100	130	190	270
	60-64	0	0	0	0	0	0	0	15	30	50	70	100	160	255
	65-69	0	0	0	0	0	0	0	0	15	25	40	60	95	140
90	under 40	0	10	20	30	45	65	85	105	130	160	190	225	275	340
	40-49	0	0	0	10	20	35	50	70	90	110	135	175	235	305
	50-59	0	0	0	0	0	15	30	50	70	90	110	145	195	275
	60-64	0	0	0	0	0	0	15	30	50	70	95	120	170	235
	65-69	0	0	0	0	0	0	0	15	25	40	55	75	100	140
95	under 40	25	30	40	50	60	80	100	120	140	170	200	240	285	345
	40-49	0	10	15	25	35	45	60	80	100	120	150	190	240	310
	50-59	0	0	0	0	15	25	40	60	80	100	125	155	205	280
	60-64	0	0	0	0	0	15	25	40	60	80	105	135	180	235
	65-69	0	0	0	0	0	0	15	20	35	45	65	80	105	140
100	under 40	55	60	65	75	85	100	115	135	160	190	220	260	300	350
	40-49	40	40	45	50	60	70	85	105	125	145	170	200	255	315
	50-59	20	25	30	35	40	50	60	75	90	115	145	180	220	285
	60-64	10	15	20	25	30	35	40	50	70	90	115	150	190	240
	65-69	0	0	10	15	15	20	25	30	40	50	70	90	110	145
105	under 40	0	0	105	110	120	130	145	165	185	210	240	275	310	355
	40-49	0	0	90	95	100	105	115	125	140	160	185	220	270	325
	50-59	0	0	80	85	90	95	100	105	115	135	165	195	240	290
	60-64	0	0	60	60	60	60	60	70	80	100	125	160	195	245
	65-69	0	0	35	35	35	35	35	40	50	60	75	95	115	145
110	under 40	0	0	0	170	175	180	195	215	235	280	280	300	330	365
	40-49	0	0	0	145	145	150	160	175	190	210	230	260	290	330
	50-59	0	0	0	135	135	135	135	145	100	175	195	220	280	305
	60-64	0	0	0	100	100	100	110	120	130	145	180	180	210	250
	65-69	0	0	0	55	55	60	65	70	75	85	95	105	125	150
115	under 40	0	0	0	0	260	260	265	275	285	295	310	325	345	370
	40-49	0	0	0	0	225	225	225	240	255	270	285	300	315	335
	50-59	0	0	0	0	195	195	200	215	230	245	260	275	290	315
	60-64	0	0	0	0	150	150	160	170	180	190	205	220	240	260
	65-69	0	0	0	0	90	90	95	100	105	110	120	130	145	160
120	under 40	0	0	0	0	0	285	285	295	305	320	335	350	365	380
	40-49	0	0	0	0	0	260	265	270	280	290	300	310	325	350
	50-59	0	0	0	0	0	245	250	260	270	280	290	300	315	330
	60-64	0	0	0	0	0	215	215	220	225	230	240	250	260	270
	65-69	0	0	0	0	0	130	130	130	135	140	145	150	155	160

For Female lives use three-quarters of these ratings.

Source: Trust Re Medical Underwriting Manual (2015)

Conclusion

With a wide range of effective treatments available for the management of hypertension, elevations of blood pressure requiring a rating are seen less frequently that in the past and, because a raised blood pressure can usually be well controlled, it is no longer the dominant parameter of risk it used to be. Despite the efficacy of modern therapeutics, uncontrolled or poorly controlled hypertension still exists and remains an important risk factor for the development of cardiac, renal and cerebrovascular disease. Due weight should therefore be given to the rating of hypertension in these circumstances.

Although blood pressure may have been relegated to a lesser level of importance for risk selection, it is still the duty of the examining physician or paramedics to make accurate recordings of the blood pressure

at the time of examination, without bias, and without any attempt to interpret them. As in the past, high readings should be repeated after a short interval, and should be reported. Any further action should be left to the life underwriter.

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