
DOCTORS VIEW EARLY MORNING RISE OF BLOOD PRESSURE AS 'CLINICALLY SIGNIFICANT'

**-- Profession split on whether they have a good understanding of how
certain ailments are affected by body's natural clock --**



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This Searle Canada/Canadian Hypertension Society/Angus Reid Poll was conducted by telephone with a random sample of 300 general and family practitioners between March 20 and 27, 1998.

These data were statistically weighted to ensure the sample's regional composition reflects that of the actual Canadian universe of general and family practitioners according to the Southam/Canadian Medical Association Masterfile, a database of all physicians in Canada.

With a Canada-wide sample of 300 one can say with 95 percent certainty that the results are within +/- 5.6 percentage points of what they would have been had the entire Canadian population of general and family practitioners been polled. The margin of error will be larger within regions and for other subgroupings of the survey population.

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Background

Circadian variation is the medical term for the body's natural 24-hour clock. The new science of treating certain diseases that follow these circadian patterns is known as “chronotherapeutics” and is showing success in the management of certain conditions, including arthritis, asthma, cardiovascular disease and cancer.

Clinical studies in chronobiology have demonstrated that the human body's circadian variations have certain highs and lows over a 24-hour period. Blood pressure and heart rate—physiological processes that affect vital cardiovascular functions—vary predictably over 24 hours according to this rhythm.

For Canadians keeping typical sleep-at-night/work-during-the-day schedules, most incidents of angina, stroke, and heart attack, typically occur during the early morning hours. Recent clinical studies have demonstrated that the greatest increase in blood pressure and heart rate occur just before waking, typically during the 6:00 a.m. to 12 noon period.

A survey of 300 Canadian general and family practitioners conducted between March 20th and March 27th, 1998 by the Angus Reid Group yielded the following insights,

- Four in five (79%) general and family practitioners agree that the early morning rise of a patient's blood pressure is clinically significant.
- Three-quarters indicate that the patterns of the body's natural clock are important to the diagnosis of cardiovascular disease (73%) and hypertension (77%).

- Patterns associated with the body's natural clock are also deemed important to the treatment of hypertension (84%) and various cardiovascular diseases: myocardial infarction (81%); silent ischemic events (79%); and angina (76%).
- Doctors are split on whether the profession has a good understanding of chronobiology – a science devoted to understanding how certain ailments are affected by the body's natural clock (52% indicate that they do while 48% believe they do not).
- Ninety-six percent (96%) of general practitioners and family doctors indicate that they would benefit from more information about treating people based on the body's natural clock.
- Ninety-four percent (94%) indicate that it would be beneficial to have medication that corresponds to those times when one's likelihood of having an angina attack or hypertension are highest.

Four in five doctors agree that the early morning rise of a patient's blood pressure is clinically significant
They also recognize a link between the body's natural clock and cardiovascular diseases and hypertension

Four out of five (79%) general and family practitioners agree that the early morning rise of a patient's blood pressure is clinically significant. However there is some dissonance between those who believe that blood pressure is at its highest between 7:00 a.m. and 3:00 p.m. (41%) and those who believe it is highest between 3:00 p.m. and 11:00 p.m. (40%).

In terms of angina, the plurality (43%) indicates that symptoms of angina are most likely to occur between 7:00 a.m. and 3:00 p.m. The majority believes that the symptoms of myocardial infarction and silent ischemic events (53% each) are most likely to occur between 11:00 p.m. and 7:00 a.m.

In addition, three-quarters feel that circadian rhythms are important to the diagnosis of cardiovascular disease (73%) and hypertension (77%).

A majority also agrees that circadian rhythms are important to the treatment of hypertension (84%) and cardiovascular disease, specifically myocardial infarction (81%), silent ischemic events (79%), and angina (76%).

Nine in ten physicians agreed that circadian rhythms have an influence on hypertension (90%), ischemic heart disease (91%) and angina (87%). Over three quarters (78%) feel that there is a connection to all three.

Doctors split on whether the profession has a good understanding of chronobiology – a science devoted to understanding how certain ailments are affected by the body's natural clock

While doctors indicate that they recognize patterns of the body's natural clock and certain ailments, they are basically split on whether the profession has a good overall understanding of chronobiology (52% believe that general practitioners have an overall good understanding of circadian rhythms while 45% do not). Two thirds (67%) claim to be at least somewhat familiar with the concept themselves.

General and family practitioners obtain most of their current information about chronobiology through journal articles (64%), medical education symposia (33%), and medical school (31%).

Doctors indicate they would benefit from more information about treating people based on the body's natural clock

Almost all (96%) agreed that they would benefit from learning more about circadian rhythms and the role of chronotherapy in cardiovascular disease. The principal sources of information which physicians would use to learn more about circadian rhythm and the role of chronotherapy would be medical education symposia and journal articles.

On average, physicians estimate that only a small proportion of their patients (14%) understand the concept of chronobiology. Most (86%) feel that patients should be educated about the connection between circadian rhythms and cardiovascular disease, but mainly through direct communication with their doctor.

High demand for medicine that corresponds to those times when one's likelihood of having an angina attack or hypertension are highest

General and family practitioners almost unanimously (94%) indicate that it would be beneficial for them to have medicine available that is delivered at the times of day when it is needed most for hypertension; the same (93%) was said for angina.

Almost all (93%) agreed that they would like to have treatments for cardiovascular disease available that would match a patient's circadian rhythms.

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Full survey details are available at the Angus Reid Group website at: www.angusreid.com

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FOUR IN FIVE DOCTORS AGREE THAT THE EARLY MORNING RISE OF BLOOD PRESSURE IS CLINICALLY SIGNIFICANT

Is the early morning rise or surge of a patient's blood pressure clinically significant?

	Total	Atlantic	Quebec	Ontario	West
Base: All Respondents					
Weighted Base	300	24	81	105	90
Unweighted base	300	20	100	101	79
	%	%	%	%	%
Yes	79	85	80	77	77
No	18	15	19	16	19
Don't know	4	0	1	7	4

At what time of day do you believe symptoms of the following cardiovascular diseases are most likely to occur among the general population?

Hypertension

In the hours of 7am to 3pm	41	30	28	49	46
In the hours of 3pm to 11pm	40	50	48	35	37
In the hours of 11pm to 7am	13	5	22	11	10
No one time of day is more likely than any other time	5	10	2	5	5
Don't know	2	5	0	1	3

Silent ischemic events

In the hours of 7am to 3pm	26	25	21	30	27
In the hours of 3pm to 11pm	6	5	5	8	5
In the hours of 11pm to 7am	53	55	62	47	53
No one time of day is more likely than any other time	9	0	9	11	10
Don't know	5	15	3	5	5

Myocardial infarction

In the hours of 7am to 3pm	33	20	20	42	39
In the hours of 3pm to 11pm	8	5	13	6	6
In the hours of 11pm to 7am	53	65	65	46	48
No one time of day is more likely than any other time	5	10	2	6	6

Angina

In the hours of 7am to 3pm	43	35	32	54	42
In the hours of 3pm to 11pm	17	15	14	13	25
In the hours of 11pm to 7am	28	40	47	19	19
No one time of day is more likely than any other time	10	10	6	11	11
Don't know	2	0	1	3	3

DOCTORS RECOGNIZE A LINK BETWEEN THE BODY'S NATURAL CLOCK AND CARDIOVASCULAR DISEASES AND HYPERTENSION

To what extent do you, personally, feel circadian rhythms are important to the DIAGNOSIS of cardiovascular disease? Are they...

Very important	18	5	17	24	15
Somewhat important	55	60	56	52	56
Not very important	21	30	24	16	22
Not important at all	3	5	0	4	4
Don't know	3	0	3	4	4

***To what extent do you, personally, feel circadian rhythms are important
to the DIAGNOSIS of hypertension? Are they...***

	Total	Atlantic	Quebec	Ontario	West
Base: All Respondents					
Weighted Base	300	24	81	105	90
Unweighted base	300	20	100	101	79
	%	%	%	%	%
Very important	23	15	20	27	23
Somewhat important	55	70	53	55	51
Not very important	18	15	25	14	19
Not important at all	3	0	1	2	5
Don't know	2	0	1	2	2

***To what extent do you, feel circadian rhythms are important to the
treatment of:***

Silent ischemic events

Very important	27	20	24	33	26
Somewhat important	51	60	57	50	46
Not very important	11	10	13	8	14
Not important at all	5	0	4	3	9
Don't know	5	10	2	7	5

Myocardial infarction

Very important	32	25	31	37	28
Somewhat important	49	55	55	46	47
Not very important	12	10	10	11	15
Not important at all	5	5	3	4	9
Don't know	2	5	1	3	1

Angina

Very important	24	15	22	24	28
Somewhat important	53	65	61	50	46
Not very important	16	10	14	18	18
Not important at all	5	5	2	6	6
Don't know	2	5	1	3	3

***To what extent do you, personally, feel circadian rhythms are important
to the TREATMENT of hypertension? Are they...***

Very important	29	15	31	29	32
Somewhat important	55	80	49	57	49
Not very important	14	5	18	10	17
Not important at all	1	0	1	2	1
Don't know	1	0	1	2	1

Do you agree or disagree that circadian rhythm has an influence on ...

	Total	Atlantic	Quebec	Ontario	West
Base: All Respondents					
Weighted Base	300	24	81	105	90
Unweighted base	300	20	100	101	79
	%	%	%	%	%
Hypertension					
Strongly agree	37	35	38	42	32
Somewhat agree	53	60	55	50	52
Somewhat disagree	6	0	6	5	10
Strongly disagree	1	0	1	1	1
Don't know	3	5	0	2	5
Angina					
Strongly agree	28	25	32	25	28
Somewhat agree	59	60	60	62	54
Somewhat disagree	10	10	8	9	13
Strongly disagree	1	0	0	1	3
Don't know	2	5	0	3	3
Ischemic heart disease					
Strongly agree	35	45	37	36	30
Somewhat agree	56	50	58	55	57
Somewhat disagree	5	0	4	4	8
Strongly disagree	1	0	1	1	3
Don't know	3	5	0	4	3

**DOCTORS SPLIT ON WHETHER THE PROFESSION HAS A GOOD UNDERSTANDING
OF CHRONOBIOLOGY- A SCIENCE DEVOTED TO UNDERSTANDING HOW
CERTAIN AILMENTS ARE AFFECTED BY THE BODY'S NATURAL CLOCK**

***In your opinion, do you feel that general practitioners have an overall
good understanding of circadian rhythms?***

Yes	52	35	61	51	49
No	45	55	39	45	48
Don't know	3	10	0	4	3

***As you may already know, chronobiology is the study of the body's circadian rhythms
and their effect on human biological processes, how familiar are you with the concept of
chronobiology ?***

Familiar (very familiar/somewhat familiar)	67	65	56	72	72
Not familiar (not very familiar/not familiar at all)	33	35	44	28	28

Where have you received or do you get MOST of your information on

circadian rhythms?					
Medical school	31	50	25	29	34
Journal articles	64	50	73	68	55
Medical education symposia	33	20	45	39	18
Peers/Other health care professionals	16	20	15	21	9

**DOCTORS INDICATE THAT THEY WOULD BENEFIT FROM MORE INFORMATION ABOUT
TREATING PEOPLE BASED ON THE BODY'S NATURAL CLOCK**

***Do you personally feel that you would benefit from learning more about
circadian rhythm and the role of chronotherapy in cardiovascular
disease?***

	Total	Atlantic	Quebec	Ontario	West
Base: All Respondents					
Weighted Base	300	24	81	105	90
Unweighted base	300	20	100	101	79
	%	%	%	%	%
Yes	96	100	96	94	97
No	3	0	3	4	3
Don't know	1	0	1	2	0

***Do you think patients should be educated about the connection between
circadian rhythm and cardiovascular disease?***

Yes	86	80	93	84	85
No	11	5	7	13	13
Don't know	3	15	0	3	3

***Would you say through direct communication with their doctor, through
patient education materials provided in the physician's waiting room,
through public information, or some other way?***

Through direct communication with their doctors	57	50	55	66	52
Through patient education materials in the physician's waiting room	19	31	22	16	16
Through public information	20	19	20	15	27
Insert with their medication	1	0	1	0	2
Personal communication/ word of mouth	1	0	1	0	2
Pharmaceutical industry	1	0	1	0	2
All of the above	1	0	0	2	0

**HIGH DEMAND FOR MEDICINE THAT CORRESPONDS TO THOSE TIMES WHEN ONE'S
LIKELIHOOD OF HAVING AN ANGINA ATTACK OR HYPERTENSION ARE HIGHEST**

***Would you like to have treatments for cardiovascular disease available
that would match a patient's circadian rhythm?***

Yes	93	95	96	92	91
No	5	0	3	6	8
Don't know	2	5	1	2	1