

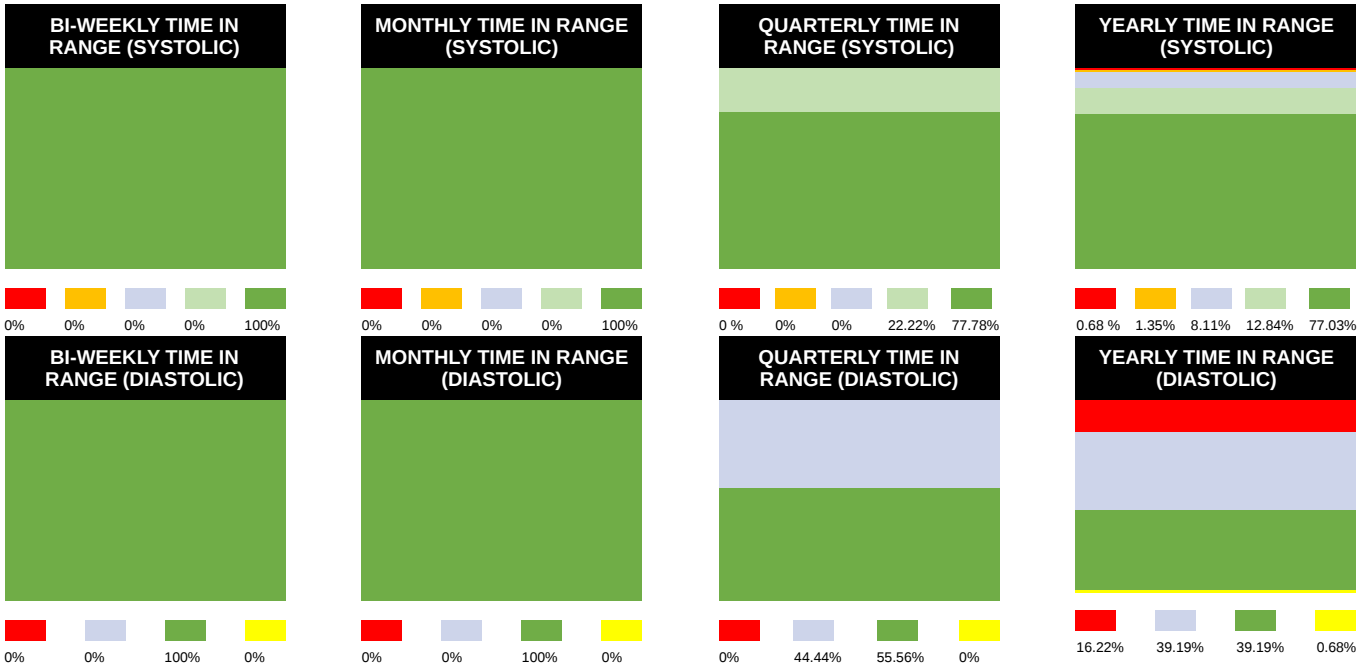


40 Mitchell Ave, Binghamton, NY 13903 Phone:(607) 723-1676

Patient Name: Dwayne Kunkel
Height: 6.2

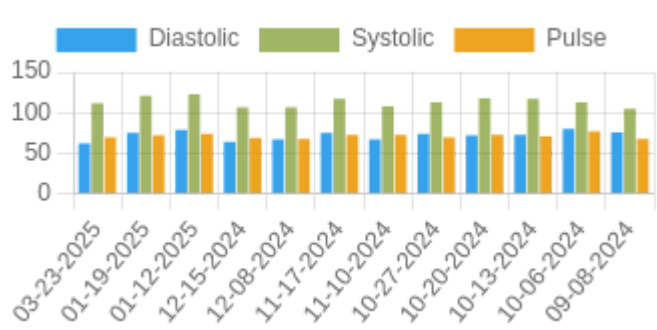
MRN #: 8101
Weight: 0

Birth Year:
Hypertension: S1



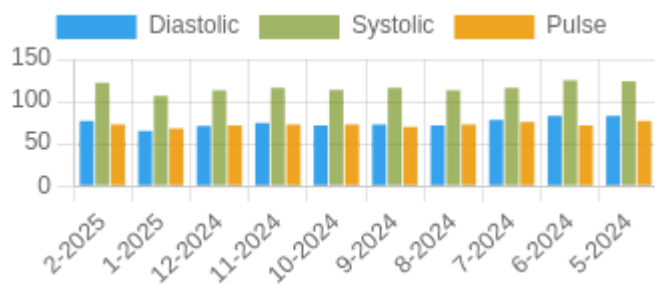
Blood Pressure Averages

Blood Pressure Averages: Weekly



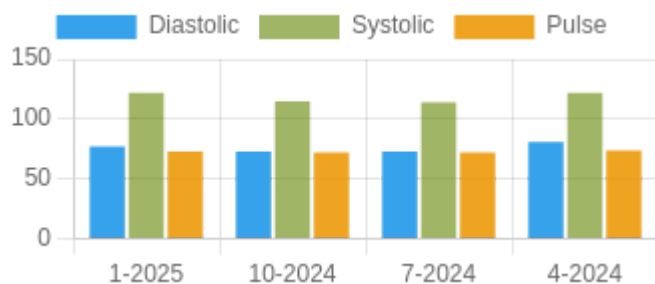
Week	Systolic(n)	Diastolic(n)	Pulse(n)
03-23-2025	112 (1)	62 (1)	70 (1)
01-19-2025	121 (4)	75 (4)	72 (4)
01-12-2025	123 (4)	79 (4)	74 (4)
12-15-2024	107 (1)	64 (1)	69 (1)
12-08-2024	107 (1)	67 (1)	68 (1)
11-17-2024	117 (2)	75 (2)	73 (2)
11-10-2024	108 (1)	67 (1)	73 (1)
10-27-2024	113 (4)	74 (4)	70 (4)
10-20-2024	118 (5)	72 (5)	73 (5)
10-13-2024	117 (7)	73 (7)	71 (7)
10-06-2024	113 (4)	80 (4)	77 (4)
09-08-2024	105 (1)	76 (1)	68 (1)

Blood Pressure Averages: Monthly



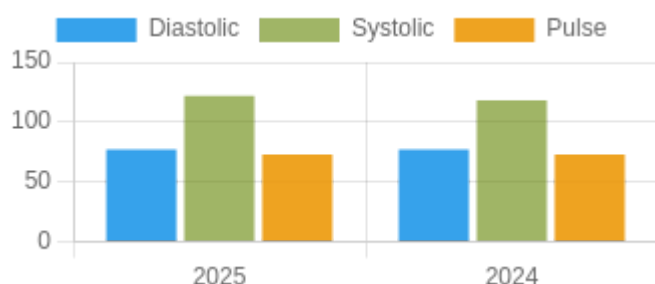
Month-Year	Systolic(n)	Diastolic(n)	Pulse(n)
2-2025	122 (8)	77 (8)	73 (8)
1-2025	107 (2)	65 (2)	68 (2)
12-2024	113 (4)	71 (4)	72 (4)
11-2024	116 (19)	75 (19)	73 (19)
10-2024	114 (6)	72 (6)	73 (6)
9-2024	116 (16)	73 (16)	70 (16)
8-2024	113 (20)	72 (20)	73 (20)
7-2024	116 (27)	78 (27)	76 (27)
6-2024	125 (31)	83 (31)	72 (31)
5-2024	124 (14)	83 (14)	77 (14)

Blood Pressure Averages: Quarterly



Quarter-Year	Systolic(n)	Diastolic(n)	Pulse(n)
1-2025	122 (8)	77 (8)	73 (8)
10-2024	115 (25)	73 (25)	72 (25)
7-2024	114 (42)	73 (42)	72 (42)
4-2024	122 (72)	81 (72)	74 (72)

Blood Pressure Averages: Yearly



Year	Systolic(n)	Diastolic(n)	Pulse(n)
2025	122 (8)	77 (8)	73 (8)
2024	118 (139)	77 (139)	73 (139)

Blood Sugar Averages

Week	Before breakfast	2 hours after breakfast	Before lunch	2 hours after lunch	Before dinner	2 hours after dinner	Bedtime
03-30-2025						122(1)	
03-22-2025				118(1)			
03-14-2025	109(3)		114(2)	112(2)	110(2)	122(1)	121(1)

Month-Year	Before breakfast	2 hours after breakfast	Before lunch	2 hours after lunch	Before dinner	2 hours after dinner	Bedtime
03-2025	109(3)		114(2)	114(3)	110(2)	122(2)	121(1)
02-2025	133(5)	132(5)	117(6)	147(4)	99(1)	99(1)	98(1)
01-2025	116(18)	134(7)	110(8)	118(6)	105(5)	130(11)	123(4)
12-2024	113(17)	116(6)	112(7)	117(8)	110(9)	114(8)	108(5)

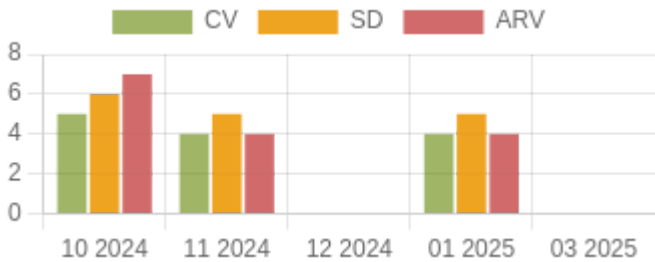
Year	Before breakfast	2 hours after breakfast	Before lunch	2 hours after lunch	Before dinner	2 hours after dinner	Bedtime
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01-01-2025	118(26)	133(12)	113(16)	126(13)	105(8)	126(14)	119(6)
01-01-2024	124(160)	144(62)	124(92)	128(88)	113(107)	128(150)	126(95)

Chat

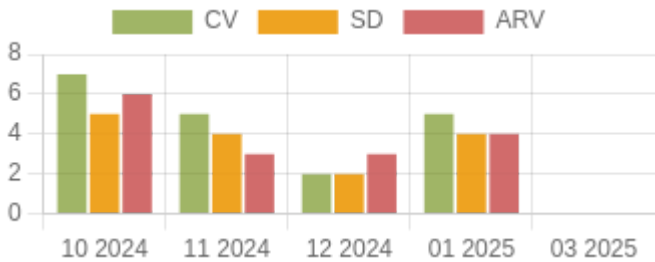
Sender	Receiver	Messege	Date&Time
Dwayne Kunkel	R.A. Ramanujan , M.D.	ok thank you	21-03-2025
R.A. Ramanujan , M.D.	Dwayne Kunkel	Your Rx was sent this AM.	21-03-2025
Dwayne Kunkel	R.A. Ramanujan , M.D.	I'm due for mounjaro shot tomorrow, no refills at the pharmacy, requested but pharmacy says insurance review?	21-03-2025
R.A. Ramanujan , M.D.	Dwayne Kunkel	Please note; Your interaction through "CHECKMYVITALS" is not considered Telehealth visit . This service is to enable care coordination as need to address blood sugar, blood pressure, & pulse related concerns as it happens. Besides it helps to share other information un attended during clinic visit with less disruption. Your interaction has been a rewarding lesson to us. Our administrators will update aspects missed in this brief note. Best wishes!	18-03-2025
null Sue Ward	Dwayne Kunkel	We have been informed that all insurances including Medicare will NOT be covering Telehealth (Video or Phone Call) visits after March 31, 2025. Keeping that in mind we will not be able to schedule any further Telehealth appointments. There will be no exceptions to his new insurance and office policy. All appointments will take place in the office. DCA Office Staff	18-03-2025
Amy Burpee , MS,RD,CDE	Dwayne Kunkel	The shortage is not supposed to be affecting getting the sensor. I have not had anyone else tell me they can't get one. I have samples if you need one. The Stelo is for non diabetics and does not have the alerts or alarms and it is very expensive to pay for it out of pocket. I do not think your insurance will cover a different CGM (the other one would be the FreeStyle Libre 3 plus but if you want to call your insurance to check we will be happy to send in for that one. Have you checked other pharmacies to see the availability for the Dexcom?	28-02-2025
Dwayne Kunkel	R.A. Ramanujan , M.D.	another brand perhaps? until the Dexcom is available again	28-02-2025
Dwayne Kunkel	R.A. Ramanujan , M.D.	nationwide shortage... do we have a plan B? Dexcom just came out with stelo.. can they be purchased at a pharmacy or only online?	28-02-2025
Amy Burpee , MS,RD,CDE	Dwayne Kunkel	I have not heard anything about that from my Dexcom rep. I have samples if you need a couple to get you through -- we can also try sending the prescription to another pharmacy. Let me know.	20-02-2025
Dwayne Kunkel	R.A. Ramanujan , M.D.	hi, Walgreens is telling me that the Dexcoms are on back order from the manufacturer until the end of march	20-02-2025
Dwayne Kunkel	R.A. Ramanujan , M.D.	thanks 🍷	19-02-2025
R.A. Ramanujan , M.D.	Dwayne Kunkel	👍	19-02-2025
Dwayne Kunkel	R.A. Ramanujan , M.D.	ok.. did Alexa send it in for me?	19-02-2025
Amy Burpee , MS,RD,CDE	Dwayne Kunkel	Let's go to 10mg weekly (that is the next dose up) -- keep me posted!	19-02-2025
Dwayne Kunkel	R.A. Ramanujan , M.D.	I'm due for a shot today.. I used the last 7.5 mounjaro last Wednesday.. I'm not seeing the same glucose levels as with the ozempic.. do you think I should get a higher dose of the mounjaro? if so can you please send it in to the pharmacy? thank you	19-02-2025

Systolic Variability Trends

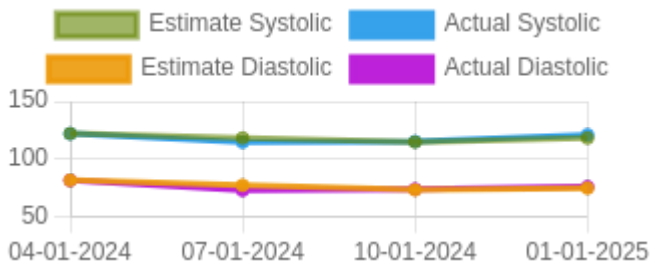


- 1. CV** –The coefficient of variation (CV) is the ratio of the standard deviation to the mean. The higher the coefficient of variation, the greater the level of dispersion around the mean, Units = mmHg.
- 2. ARV** – Average real variability (ARV) is a method for measuring short-term, reading-to-reading, within-subject variability. It is defined as the average of the absolute differences between consecutive readings, Units = mmHg.
- 3. SD** – Standard deviation is a statistical measurement of variability. It measures how much variation there is from the average (mean), Units = mmHg.

Diastolic Variability Trends

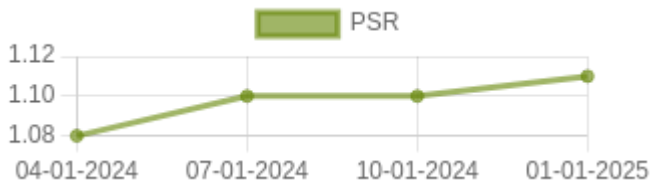


Kalman Trends



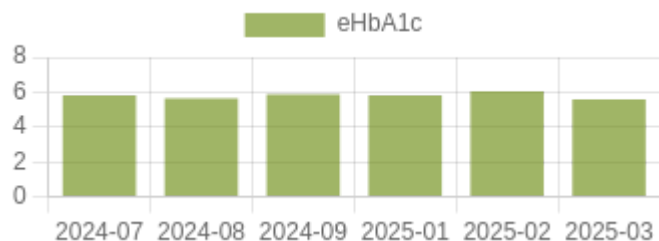
- 1. Mean(Arithmetic Mean)** – Mean is the average of a set of numbers
- 2. SD** – Standard deviation is a statistical measurement of variability. It measures how much variation there is from the average (mean).
- 3. V-** Variance determines the spread of numbers.. It measures how far each number in the set is from the mean (average) and from every other number in the set.

PSR



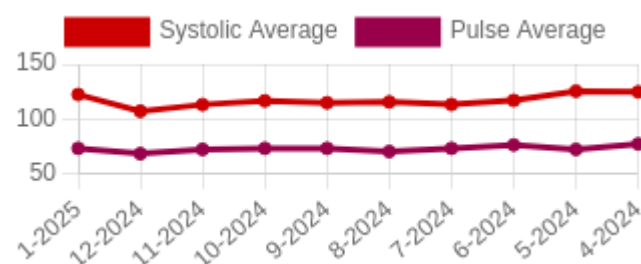
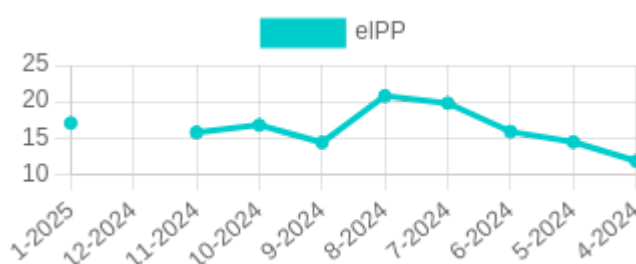
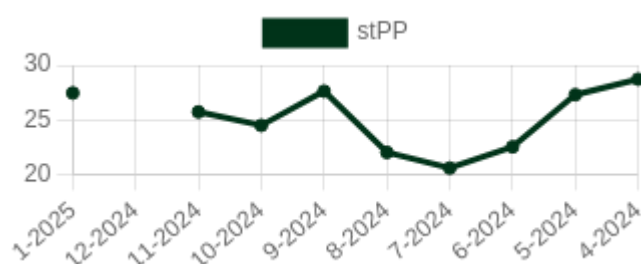
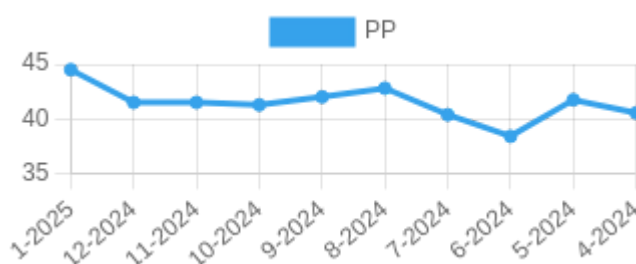
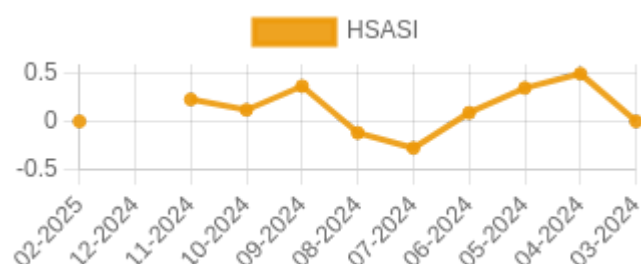
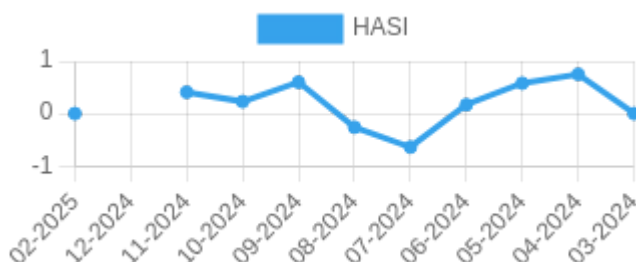
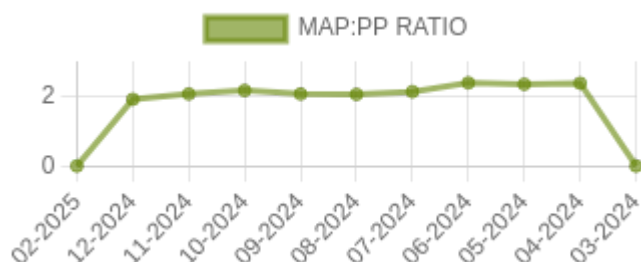
PSR: Pulse stiffening ratio (PSR) is the ratio between systolic and diastolic stiffness. It can be expressed as $PSR = \frac{[systolic\ stiffness]}{[diastolic\ stiffness]}$.

HbA1c Trends



Estimated HbA1c - eHbA1c

Others Trends



1. **MAP:PP Ratio**- Mean Arterial Pressure : Pulse Pressure Ratio

2. **HASI**- Home arterial stiffening index

3. **HSASI**- Home Symmetric arterial stiffening index

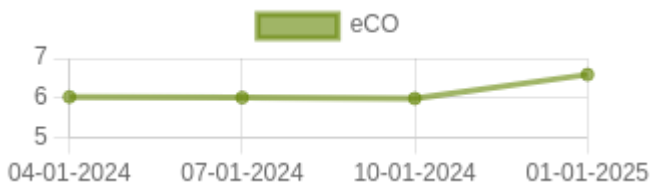
4. **PP**- Pulse Pressure

5. **WIF or widening factor number. WIF** = $K - 1 / \ln(K) - 1$, where K is the variability ratio (K = Systolic Std. Dev / Diastolic Std. Dev)

6. **eIPP**- Elastic component of pulse pressure. $eIPP = (PP - stPP)$

7. **stPP**- Stiffening component of pulse pressure. $stPP = PP / (1 + WIF)$

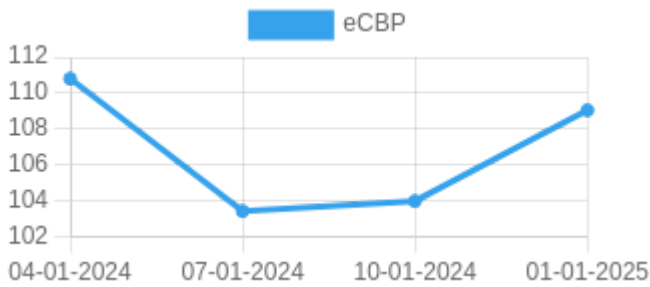
eCO graph



eCO (Estimated Cardiac Output) Normal range to be added 5 – 10 liters/minute

Units of eCO (Estimated Cardiac Output) – liters/minute

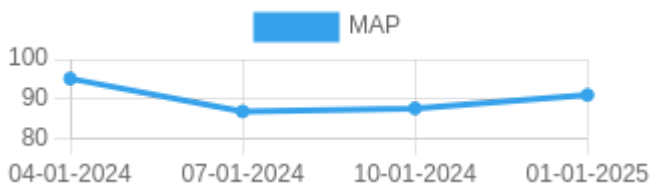
eCBP graph



eCBP (Estimated Central Blood Pressure) normal range – 0 – 100 mmHg

- 1. Cardiac output scale is in liters/minute. Normal range at rest is 5-6 liters/min and (with activity goes up to 30 -35 liters/min)
- 2. Central mean BP is Squared, Mean radial artery BP/diastolic BP in mmHg. Scale in mmHg and range is in mmHg and the scale Should be between 0-50 50-100, 150 and 200 mmHg. No established normal at the moment.

MAP graph



MAP -Mean arterial blood pressure. MAP = Diastolic blood pressure + 1/3(Systolic blood pressure – Diastolic blood pressure)

Reference & Abbreviations

Guide to abbreviations and blood pressure, pulse and other Metrics.

HBPM -Home blood pressure measurement.	HBS -Home blood sugar
PP -Pulse pressure	AP -Average pulse
BPV -Blood pressure variability	SV -Systolic variability
DV -Diastolic variability	PV -Pulse variability
ARV -Average real variability	CV -Coefficient of variation %
SD -Standard deviation	MAP -Mean arterial blood pressure
MAP: PP Mean Arterial Pressure : Pulse Pressure	HASI -Home arterial stiffness index
HSASI -Home Symmetric arterial stiffness index	Estimated CO -Cardiac output [CO=(PPxHR)x.002]
PSR Pulse stiffening ratio. (PSR = SBP/DBP or slope of systolic BP/slope of diastolic BP)	

Estimated central blood pressure ECBP (ECBP = brachial MBP2/brachial DBP or ECBP = radial MBP2/radial DBP)

Normal Ranges.

Systolic BP 110 – 120 mm Hg

Diastolic BP 70 – 80 mmHg

Pulse 60 - 100/min

Pulse pressure (PP) 40 mmHg (Low PP less than 25% of the systolic BP and high PP greater than 100 mm Hg)

Normal stroke volume (SV) 60 -100 ml

Cardiac output (CO) SV x pulse rate/min

Estimate Cardiac output = Stroke volume / m

Blood pressure variability; Not defined in USA. But desirable ranges ESH guidelines; Systolic day time BP less than 15 mmHg and Diastolic less than 7.9 mmHg and Weighted SD less than 12.8 mmHg for systolic

Definitions.

MAP:PP ratio not defined.

Pulse stiffening ration; Not defined. $\text{Pulse pressure} \times \text{inverse log} \left(\frac{\text{std. dev. systolic}}{\text{std. dev. Diastolic}} \right) / \left(\frac{\text{std. dev. systolic}}{\text{std. dev. Diastolic}} - 1 \right)$ (Pulse pressure X ln (K)/(K-1) where K is systolic Sd /diastolic SD.)

Home arterial stiffness index; Not defined

Home arterial symmetric arterial index: Not defined.

Central blood pressure:Not defined

References.

MAP;
Chemla D, Antony I, Zamani K, Nitenberg A. Mean aortic pressure is the geometric mean of systolic and diastolic aortic pressure in resting humans. J Appl Physiol (1985). 2005 Dec;99(6):2278-84. doi: 10.1152/japplphysiol.00713.2005. Epub 2005 Jul 28. PMID: 16051709. Tien LYH, Morgan WH, Cringle SJ, Yu DY. Optimal Calculation of Mean Pressure From Pulse Pressure. Am J Hypertens. 2023 May 21;36(6):297-305. doi: 10.1093/ajh/hpad026. PMID: 36945835; PMCID: PMC10200551.

PSR:

Gavish B, Izzo JL Jr. Arterial Stiffness: Going a Step Beyond. Am J Hypertens. 2016 Nov 1;29(11):1223-1233. doi: 10.1093/ajh/hpw061. PMID: 27405964.

DCBP:

Chemla D, Millasseau S, Hamzaoui O, Teboul JL, Monnet X, Michard F, Jozwiak M. New Method to Estimate Central Systolic Blood Pressure From Peripheral Pressure: A Proof of Concept and Validation Study. FrontCardiovasc Med. 2021 Dec 15;8:772613. doi: 10.3389/fcvm.2021.772613. PMID: 34977186; PMCID: PMC8714848.

CO

Koenig J, Hill LK, Williams DP, Thayer JF. Estimating cardiac output from blood pressure and heart rate: the liljestrand& zander formula. Biomed Sci Instrum. 2015;51:85-90. PMID: 25996703; PMCID: PMC5317099.

BP

Mean arterial blood pressure;

Guidelines recommend less than 125 mmHg Poon LC, Shennan A, Hyett JA, Kapur A, Hadar E, Divakar H, McAuliffe F, da Silva Costa F, von Dadelszen P, McIntyre HD, Kihara AB, Di Renzo GC, Romero R, D'Alton M, Berghella V, Nicolaides KH, Hod M. The International Federation of Gynecology and Obstetrics (FIGO) initiative on pre-eclampsia: a pragmatic guide for first-trimester screening and prevention. Int J

GynaecolObstet 2019;

145(Suppl 1):1–33.Not defined in general (desirable MAP ,90 mm Hg)Melgarejo JD, Yang WY, Thijs L, Li Y, Asayama K, Hansen TW, Wei FF, Kikuya M, Ohkubo T, Dolan E, Stolarz-Skrzypek K, Huang QF, Tikhonoff V, Malyutina S, Casiglia E, Lind L, Sandoya E, Filipovský J, Gilis-Malinowska N, Narkiewicz K, Kawecka-Jaszcz K, Boggia J, Wang JG, Imai Y, Vanassche T, Verhamme P, Janssens S, O'Brien E, Maestre GE, Staessen JA, Zhang ZY; International

Database on Ambulatory Blood Pressure in Relation to Cardiovascular Outcome Investigators*. Association of Fatal and Nonfatal Cardiovascular Outcomes With 24-Hour Mean Arterial Pressure. Hypertension. 2021 Jan;77(1):39-48

We hope these complementary multiparametric data along with standard set used in daily practice helps to understand home blood pressure trend and other information they may potentially generate in the future to understand medication effects and patient management.

Terms & Conditions Accepted: YES

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