

Sessione congiunta GIMSI & PLACE
Sessione Pratica:
Indicazioni, metodologie e risultati dei test diagnostici

Monitoraggio ambulatoriale della pressione arteriosa

Marco Capacci



2018 ESC Guidelines for the diagnosis and management of syncope

Basic autonomic function tests		
ABPM		
ABPM is recommended to detect nocturnal hypertension in patients with autonomic failure. ^{140,148–151}	I	B
ABPM should be considered to detect and monitor the degree of OH and supine hypertension in daily life in patients with autonomic failure. ^{152,153}	IIa	C
ABPM and HBPM may be considered to detect whether BP is abnormally low during episodes suggestive of orthostatic intolerance.	IIb	C

European Society of Hypertension Position Paper on Ambulatory Blood Pressure Monitoring

IDENTIFICATION OF HYPOTENSIVE PATTERNS	OBPM	HBPM	ABPM
Postural hypotension	Difficult to diagnose	Fall in standing HBPM	Time, duration, and relationship to hypotension can be documented
Postprandial hypotension	Difficult to diagnose	Fall in HBPM after meals	Fall in ABPM after meals
Drug-induced hypotension	Difficult to diagnose	Can be detected if HBPM after drug ingestion	Time, duration, and relationship to drug intake can be documented
Idiopathic hypotension	Difficult to diagnose	Can be detected if HBPM related to hypotension	Best diagnosed with ABPM
Autonomic failure	Difficult to diagnose	Not detectable	Daytime hypotension and nocturnal hypertension



High Blood Pressure & Cardiovascular Prevention (2024) 31:425–436
<https://doi.org/10.1007/s40292-024-00670-0>

Online ISSN 1179-1985

POSITION PAPER



Standards for the Implementation, Analysis, Interpretation, and Reporting of 24-hour Ambulatory Blood Pressure Monitoring Recommendations of the Italian Society of Hypertension

Stefano Omboni^{1,2}  · Grzegorz Bilo^{3,4} · Francesca Saladini⁵ · Antonino Di Guardo⁶ · Paolo Palatini⁷ · Gianfranco Parati^{3,4} · Giacomo Pucci^{8,9} · Agostino Virdis¹⁰ · Maria Lorenza Muiesan¹¹



Non confermato			Referto ABP Sentinel		
ID:			Nome:		
Data di nascita:			Sesso:		
Altezza:			Peso:		
BMI:			BSA:		
Medico:			Reparto/Dip.:		
Informazioni di registrazione					
Inizio:			Indice di rigidità arteriosa ambulatoriale (AASI):	0,54	
Fine:			Indice Morning Surge (MSI):	0,00 %	
Durata:	21:37:00		Pressione max modalità Comfort:	170	
Numero di letture:	64 (88,89 %)		Modalità bambino:	Disabilitato	
Sistolica > limiti:	75,00 %		Matricola:	227-009106	
Diastolica > limiti:	32,81 %				
PA mattutina 06:00-10:00: Sistolica 135 mmHg, Diastolica 83 mmHg, PAM 101 mmHg, Differenziale 51 mmHg, FC 74 BPM					
Riepilogo dell'intera registrazione - Letture riuscite: 88,89 % (64 di 72), Media: 141/77 mmHg					
	Media oraria	Dev. std.	Min.	Max.	Dip
Riepilogo complessivo – Riuscito: 88,89% (64 di 72), Media: 141/77 mmHg					
Sistolica sopra i limiti: 75,00%, diastolica sopra i limiti: 32,81%					
Sistolica (mmHg)	141	15,46	113 (09:58 mar)	177 (20:43 mar)	4,58%
Diastolica (mmHg)	77	12,99	51 (03:39 mer)	113 (07:11 mer)	16,33%
PAM (mmHg)	98	11,84	72 (16:39 mar)	126 (07:11 mer)	4,93%
Pressione differenziale (mmHg)	64	14,42	21 (09:58 mar)	96 (20:57 mar)	
Frequenza cardiaca (bpm)	71	7,02	59 (04:39 mer)	88 (09:34 mar)	
Riepilogo periodi di veglia – Riuscito: 85,19% (46 di 54), Media: 143/82 mmHg					
Sistolica > 135 mmHg: 71,74%, diastolica > 85 mmHg: 32,61%					
Sistolica (mmHg)	143	15,59	113 (09:58 mar)	177 (20:43 mar)	
Diastolica (mmHg)	82	12,61	57 (13:24 mar)	113 (07:11 mer)	
PAM (mmHg)	100	12,37	72 (16:39 mar)	126 (07:11 mer)	
Pressione differenziale (mmHg)	61	15,95	21 (09:58 mar)	96 (20:57 mar)	
Frequenza cardiaca (bpm)	74	6,43	60 (06:09 mer)	88 (09:34 mar)	
Riepilogo periodi di sonno – Riuscito: 100,00% (18 di 18), Media: 136/66 mmHg					
Sistolica > 120 mmHg: 83,33%, diastolica > 70 mmHg: 33,33%					
Sistolica (mmHg)	136	14,45	115 (03:39 mer)	168 (22:12 mar)	
Diastolica (mmHg)	66	8,55	51 (03:39 mer)	81 (22:12 mar)	



	Media oraria	Dev. std.	Min.	Max.	Dip
Riepilogo complessivo – Riuscito: 88,89% (64 di 72), Media: 141/77 mmHg Sistolica sopra i limiti: 75,00%, diastolica sopra i limiti: 32,81%					
Sistolica (mmHg)	141	15,46	113 (09:58 mar)	177 (20:43 mar)	4,58%
Diastolica (mmHg)	77	12,99	51 (03:39 mer)	113 (07:11 mer)	16,33%
PAM (mmHg)	98	11,84	72 (16:39 mar)	126 (07:11 mer)	4,93%
Pressione differenziale (mmHg)	64	14,42	21 (09:58 mar)	96 (20:57 mar)	
Frequenza cardiaca (bpm)	71	7,02	59 (04:39 mer)	88 (09:34 mar)	
Riepilogo periodi di veglia – Riuscito: 85,19% (46 di 54), Media: 143/82 mmHg Sistolica > 135 mmHg: 71,74%, diastolica > 85 mmHg: 32,61%					
Sistolica (mmHg)	143	15,59	113 (09:58 mar)	177 (20:43 mar)	
Diastolica (mmHg)	82	12,61	57 (13:24 mar)	113 (07:11 mer)	
PAM (mmHg)	100	12,37	72 (16:39 mar)	126 (07:11 mer)	
Pressione differenziale (mmHg)	61	15,95	21 (09:58 mar)	96 (20:57 mar)	
Frequenza cardiaca (bpm)	74	6,43	60 (06:09 mer)	88 (09:34 mar)	
Riepilogo periodi di sonno – Riuscito: 100,00% (18 di 18), Media: 136/66 mmHg Sistolica > 120 mmHg: 83,33%, diastolica > 70 mmHg: 33,33%					
Sistolica (mmHg)	136	14,45	115 (03:39 mer)	168 (22:12 mar)	
Diastolica (mmHg)	66	8,55	51 (03:39 mer)	81 (22:12 mar)	
PAM (mmHg)	94	9,81	73 (03:39 mer)	115 (22:24 mar)	
Pressione differenziale (mmHg)	70	8,04	57 (03:09 mer)	87 (22:12 mar)	
Frequenza cardiaca (bpm)	64	4,46	59 (04:39 mer)	80 (22:12 mar)	



	Media oraria	Dev. std.	Min.	Max.	Dip
Riepilogo complessivo – Riuscito: 88,89% (64 di 72), Media: 141/77 mmHg					
Sistolica (mmHg)					4,58%
Diastolica (mmHg)					16,33%
PAM (mmHg)					4,93%
Pressione differenziale (mmHg)					
Frequenza cardiaca (bpm)					
Ritmo Circadiano					
Conservato					
Sistolica (mmHg)					
Diastolica (mmHg)					
PAM (mmHg)					
Pressione differenziale (mmHg)					
Frequenza cardiaca (bpm)					
<i>Dipper: 10-20%</i> <i>Extreme dipper: >20%</i>					
Non conservato					
Sistolica (mmHg)					
Diastolica (mmHg)					
PAM (mmHg)					
Pressione differenziale (mmHg)					
Frequenza cardiaca (bpm)					
<i>Non dipper: <10%</i> <i>Riser: PA notturna > diurna</i>					



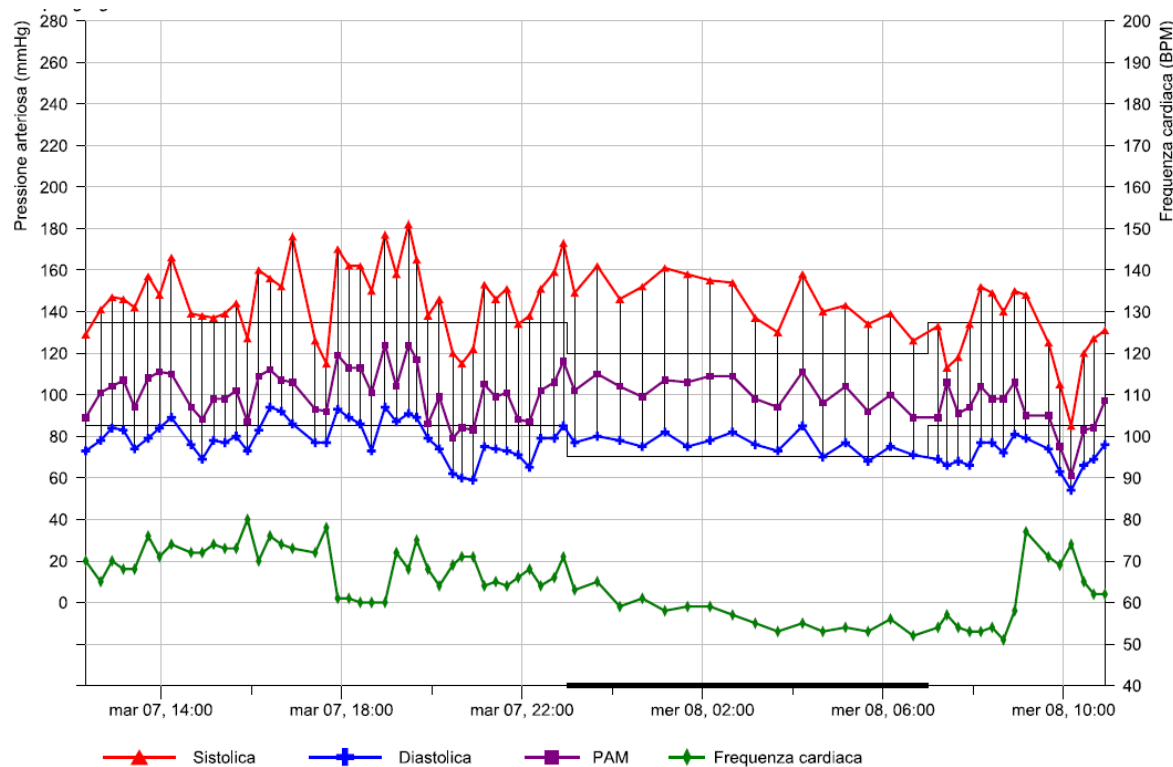


Tabella misurazioni ABP

Tipo	Giorno	Ora	Sys	Dia	PAM	PP	FC	Stato	Codice	Esclusa	Evento diario
Manuale	1	09:34	149	90	111	59	88				
Auto	1	09:39	0	0	0	0	0	Errore	11	X	
Riprova	1	09:42	0	0	0	0	0	Errore	70	X	
Auto	1	09:54	0	0	0	0	0	Errore	4	X	
Riprova	1	09:58	113	92	95	21	80				
Auto	1	10:09	0	0	0	0	0	Errore	70	X	
Riprova	1	10:12	0	0	0	0	0	Errore	50	X	
Auto	1	10:24	0	0	0	0	0	Errore	70	X	
Riprova	1	10:27	120	79	95	41	78				
Auto	1	10:39	135	67	85	68	72				
Auto	1	10:54	137	86	102	51	68				
Auto	1	11:09	160	91	113	69	75				
Auto	1	11:24	141	82	109	59	79				
Auto	1	11:39	148	78	99	70	74				
Auto	1	11:54	0	0	0	0	0	Errore	90	X	
Riprova	1	11:57	0	0	0	0	0	Errore	70	X	
Auto	1	12:09	0	0	0	0	0	Errore	90	X	
Riprova	1	12:12	0	0	0	0	0	Errore	90	X	
Auto	1	12:24	0	0	0	0	0	Errore	18	X	
Riprova	1	12:27	0	0	0	0	0	Errore	90	X	
Auto	1	12:39	142	82	109	60	84				
Auto	1	12:54	0	0	0	0	0	Errore	18	X	
Riprova	1	12:58	155	88	104	67	77				
Auto	1	13:09	144	75	99	69	75				
Auto	1	13:24	116	57	74	59	74				
Auto	1	13:39	130	71	85	59	70				
Auto	1	13:54	131	73	92	58	71				
Auto	1	14:09	135	79	96	56	68				
Auto	1	14:24	138	72	97	66	66				
Auto	1	14:39	149	79	100	70	64				
Auto	1	14:54	0	0	0	0	0	Errore	90	X	



Association between hypotension during 24 h ambulatory blood pressure monitoring and reflex syncope: the SynABPM 1 study

Ora	Sys	Dia	PAM	PP	FC
14:35	101	51	68	50	89
14:50	104	53	72	51	77
15:05	85	37	59	48	68
15:20	100	53	70	47	72
15:35	98	43	62	55	74
15:50	99	51	65	48	72
16:05	95	49	65	46	66
16:20	100	54	71	46	71

Episodio ipotensivo

Singolo episodio PAS <90 mmHg o 2 episodi PAS <100 mmHg

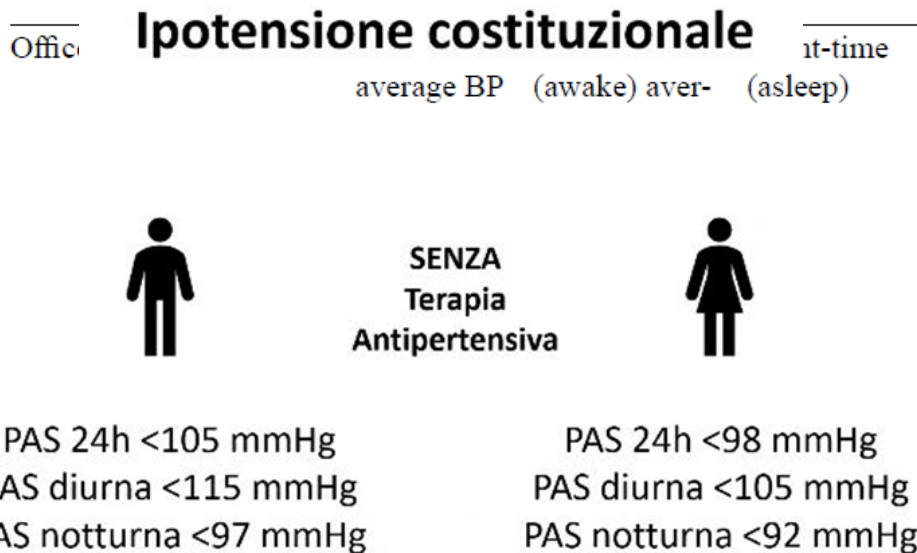
Ipotensione post-prandiale

Calo di almeno 20 mmHg di PAS o PAS <90 mmHg a 2 ore dal pasto

Trahair LG et al. Postprandial hypotension: A systematic review. J Am Med Dir Assoc 2014



Naive



Omboni et al. *High Blood Press Cardiovasc Prev* 2024 ; Shin J et al. *J of Clinical Hypertension (Greenwich)* 2023
Groppelli et al. *Europace* 2024



In terapia

Blood pressure management in hypertensive patients with syncope: how to balance hypotensive and cardiovascular risk

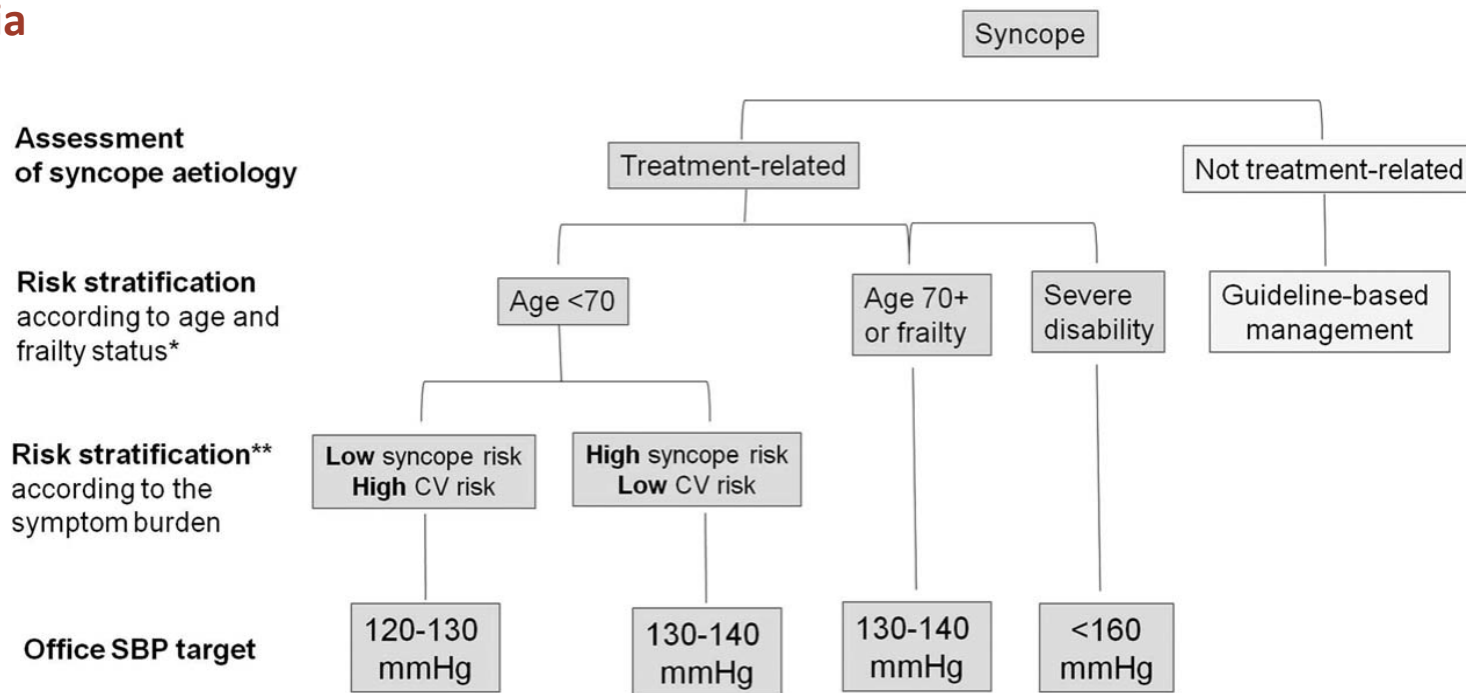
Giulia Rivasi^a, Michele Brignole^b, Martina Rafanelli^a, Grzegorz Bilo^b, Martino F. Pengo^b, Andrea Ungar^a, and Gianfranco Parati^{b,c}

TABLE 2. Clinical features indicating a high risk of syncope and cardiovascular events

High risk of syncope Antihypertensive treatment-related syncope AND one of the following	High risk of cardiovascular events ^a
At least three syncope episodes over the previous 2 years	Clinical cardiovascular disease (coronary artery disease, stroke/TIA, peripheral artery disease)
Syncope-related fracture or intracranial bleeding	Diabetes mellitus with target organ damage
Recurrent hypotensive presyncope with a significant impact on quality of life	Severe chronic kidney disease
Syncope due to orthostatic hypotension ^b	Calculated 10-year SCORE ^c ≥10%



In terapia



Rivasi G, Brignole M et al J Hypertension 2020



MONITORAGGIO PRESSORIO NELLE 24 ORE

Roma, 25 giugno 2026

Sig.ra **Sincope Sincopi**, di 82 anni

Provenienza: Ambulatorio Sincope

Motivo dell'esame: Controllo terapia in paziente con sincope

TERAPIA VASOATTIVA IN ATTO AL MOMENTO DELL'ESAME:

Farmaco	Dosaggio	Posologia	Orario
Ramipril+Amlodipina	10+5 mg	1 cp	Mattina

PRESSIONE ARTERIOSA CLINICA: 140/79 mmHg braccio dx, 138/80 mmHg braccio sn

PA media 24 ore 141/77 mmHg, PA media diurna 143/82 mmHg, PA media notturna 136/66 mmHg. FC media 71 bpm.

Ritmo circadiano non conservato (profilo non dipper). Variabilità pressoria elevata.

Conclusioni:

Il monitoraggio dimostra un controllo accettabile dei valori sisto-diastolici medi nell'arco delle 24 ore in relazione all'età, alla storia di sincope e al livello funzionale. Non si registrano episodi ipotensivi né ipotensione post-prandiale.

Paziente asintomatica per tutta la durata della registrazione.

Proseguire invariata la terapia.

Interpretazione dei risultati
diagnosi di iper/ipotensione
controllo in relazione al rischio

Episodi ipotensivi

Indicazioni terapeutiche





marco.capacci@unifi.it

