La metodologia adottata per misurare la pressione arteriosa utilizzata nello studio SPRINT prevede: con un misuratore automatico standardizzato che, dopo 5 minuti di attesa, si misura la pressione per 3 volte e poi si utilizza la media dei valori ottenuti. Il tutto con medici e personale sanitario fuori dalla stanza: si tratta di automisurazione. In base poi ai valori così ottenuti si decideva circa eventuali variazioni del trattamento in atto.
Questo è sicuramente un punto critico e forse innovativo in quanto questa modalità di misurazione della pressione non rappresenta lo standard abituale nella pratica clinica corrente.
La pressione così misurata, probabilmente, risulta essere inferiore anche di 10 mmHg o più rispetto al metodo tradizionale. In questo studio gli autori hanno quantificato la variabilità della Pressione Arteriosa (PA) associata al lato del braccio, la posizione del corpo, e le misurazioni successive nel contesto di uno studio osservazionale di popolazione e l'influenza delle diverse condizioni di misura sulla prevalenza di ipertensione. Il campione comprendeva 967 uomini e 812 donne di età compresa da 45 a 83 anni al basale. LA PA è stata misurata secondo un protocollo standardizzato con i dispositivi oscillometrici: tre misurazioni in posizione seduta al braccio sinistro, una misurazione supina simultanea su entrambe le braccia e quattro misurazioni in posizione supina al braccio con la più alta PA. Gli autori hanno rilevato che, nel complesso, non vi sono differenze medie di PA nelle due braccia. La PA, sia diastolica che sistolica, è risultata superiore quando misurata in posizione seduta rispetto alla posizione supina. Si è dimostrato anche un calo della PA dopo misurazioni ripetute. Di conseguenza, la prevalenza di ipertensione dipende fortemente dal numero e schema di misurazioni della PA. In conclusione la modalità della misurazione è fondamentale e deve essere standardizzata. Le misurazioni della PA possono essere confrontate solo tra gli studi che applicano condizioni di misura uguali. La prima misurazione BP non deve essere usata per definire l'ipertensione poiché sovrastima la PA. La media della seconda e terza misura offre il vantaggio di una migliore riproducibilità.

Durante la misurazione della pressione sanguigna (BP), la posizione raccomandata del centro bracciale è direttamente sopra l'arteria brachiale. In questo studio gli autori hanno evidenziato di nuovo l'importanza del posizionamento del bracciale corretto durante: (1) misura auscultatoria con un bracciale appropriato o piccolo; (2) misura oscillometrica con un bracciale progettato per garantire misure accurate a prescindere dalla posizione. Il bracciale è stato infatti posto sul braccio controlaterale sia in posizione corretta che in una posizione errata. Il posizionamento errato ed il bracciale piccolo avevano influenza sulla misurazione auscultatoria. La misura oscillometrica con il nuovo bracciale invece non mostrava differenze quando il bracciale stesso veniva posizionato in posizione non corretta (differenza con la posizione corretta <1,5 mm Hg). Questi risultati sono molto rilevanti per la pratica clinica quotidiana.

Lo strumento utilizzato nello studio SPRINT è questo: <http://omronhealthcare.com/wp-content/uploads/hem-907xl_im.pdf>

Qui <http://www.eshonline.org/guidelines/blood-pressure-monitoring/>

Siamo in attesa della approvazione da parte della FDA dello smartwatch OMRON che consente la corretta misurazione della pressione arteriosa <https://thejournier.com/2018/03/15/omron-project-zero-2-0-wearable-blood-pressure-watch-is-coming/>



Sprint : <https://www.nhlbi.nih.gov/news/2017/systolic-blood-pressure-intervention-trial-sprint-questions-and-answers>

Un altro aspetto importante é rappresentato dalla **valutazione** della[**ipotensione ortostatica**](http://www.cardiotool.net/2015/01/ipotensione-ortostatica/), condizione molto frequente nei soggetti anziani. Nello **studio SPRINT** i soggetti con valori di sistolica inferiori a 110 mmHg dopo un minuto di ortostatismo (9.4% dei soggetti valutati per l’elegibilità) erano esclusi dallo studio. Inoltre, il protocollo prevedeva la valutazione routinaria della pressione in ortostatismo durante le visita di controllo, cosa che raramente viene fatta nella pratica clinica quotidiana. Non sorprende, quindi, che nello studio SPRINT, non sia stato rilevato un eccesso di cadute negli anziani del braccio di trattamento intensivo rispetto al gruppo di controllo.

Bisogna infine ricordare che nello **studio SPRINT erano stati esclusi i** **pazienti**con diabete, quelli con un pregresso ictus, con scompenso cardiaco, insufficienza renale cronica severa, rene policistico, proteinuria ed anche i soggetti per i quali si poteva prevedere una scarsa aderenza alla terapia.

Nonostante queste importanti esclusioni, la coorte di over 75 arruolata nello **studio SPRINT** appare comunque rappresentativa dello spettro di fragilità rilevabile nella popolazione adulta di **soggetti anziani** che sono in grado di recarsi nello studio del medico. Inoltre, non si può non considerare che in questa fascia di età vi sono pochi interventi la cui efficacia nel ridurre la mortalità é sostenuta da solide evidenze scientifiche.

Alla luce di tutto ciò e in attesa di un aggiornamento delle**linee guida**, appare ragionevole prendere in considerazione e applicare i risultati dello studio SPRINT nella popolazione geriatrica a condizione che i pazienti siano accuratamente selezionati e che vengano adottate procedure adeguate per la misurazione della pressione arteriosa.

Supiano JAGS 2017 Applying …

The Systolic Blood Pressure Intervention Trial (SPRINT; ClinicalTrials.gov, NCT01206062) was stopped early because of significantly lower risk of cardiovascular disease in participants randomized to a systolic blood pressure target of 120 mmHg (intensive) than in those randomized to 140 mmHg (standard). The cardiovascular outcome benefit was also identified in subjects aged 75 and older assigned to the intensive arm—34% lower than in the standard arm—in addition to 33% lower all‐cause mortality at 3.14 years of follow‐up. These beneficial outcomes held in older participants characterized as frail or with impaired gait speed. This article addresses several questions that need to be considered in applying the SPRINT results to the clinical care of older adults: Why are the SPRINT results discordant from those of epidemiological studies? Do the SPRINT findings generalize to the frail, older adults that I care for? Were there more adverse events in the intensive treatment group? What about cognitive and kidney outcomes? What are future considerations, and how low should we go?

"It's a game-changer," said researcher Mark Supiano, MD, from the School of Medicine at the University of Utah in Salt Lake City. And this low blood pressure target does not appear to increase the risk for adverse events, including falls, as some experts had feared, he told Medscape Medical News. The study results were presented by Dr Supiano and one of his colleagues, first author Jeff Williamson, MD, from the Wake Forest School of Medicine in Winston-Salem, North Carolina, here at the American Geriatrics Society 2016 Annual Scientific Meeting, and published online simultaneously in JAMA. Overall results from SPRINT — the Systolic Blood Pressure Intervention Trial — were released previously, as reported by Medscape Medical News. Many previous trials have shown that most people with hypertension live longer if their condition is controlled, but a target blood pressure has not been definitively established. A systolic blood pressure target below 150 mm Hg for patients 60 years and older was recently recommended by the Eighth Joint National Committee, although a minority of committee members argued for a target of 140 mm Hg. It's a game-changer. Results from studies of the aggressive lowering of blood pressure in older people have been conflicting. Some observational studies have suggested that blood pressure medications increase the risk for falls, but some small randomized controlled trials have suggested the opposite, Dr Williamson reported. The researchers conducted their analysis to see "how low you can go," Dr Supiano explained. They assessed 2636 SPRINT participants who were 75 years and older, a subpopulation considered to be at high risk for adverse events from antihypertensive medication. All were at elevated risk for cardiovascular disease. The 1317 people randomly assigned to intensive treatment had a target systolic blood pressure of 120 mm Hg or less, and the 1319 assigned to standard treatment had a target of 140 mm Hg or less. At a median follow-up of 3.14 years, mean pressure achieved was lower with intensive treatment than with standard treatment (123.4 vs 134.8 mm Hg). Mortality rates were significantly lower with intensive treatment than with standard treatment, as were rates of cardiovascular disease, defined as a composite of nonfatal myocardial infarction, acute coronary syndrome not resulting in a myocardial infarction, nonfatal stroke, nonfatal acute decompensated heart failure, and death from all cardiovascular causes. The overall rate of serious adverse events did not differ between the two groups. The researchers calculated that they would need to intensively treat 27 patients to prevent one cardiovascular event and 41 patients to prevent one death.

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**Table. Outcomes in SPRINT Patients 75 Years and Older**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Outcome** | **Intensive Treatment, n = 1317** | **Standard Treatment, n = 1319** | **Hazard Ratio** | **95% Confidence Interval** |
| Death, n | 73 | 107 | 0.67 | 0.49–0.91 |
| Cardiovascular event, n | 102 | 148 | 0.66 | 0.51–0.85 |
| Serious adverse event, % | 48.4 | 48.3 | 0.99 | 0.89–1.11 |

There was no statistically significant difference in the number of people injured in falls between the two groups, or in the prevalence of orthostatic hypotension. There were also no differences between the two groups when the researchers refined their analysis to look at particularly frail participants and those with slow gaits. About the same number of patients in the two groups dropped out of the study, but those numbers were small. "This is encouraging news," Dr Williamson told Medscape Medical News. "Yes, it comes at a price of one more medication per day. But you can safely lower the blood pressure even in older people and significantly lower the risk of complications of hypertension." The researchers acknowledge that the exclusion criteria they used in their analysis is a weakness. They excluded people with type 2 diabetes, a history of stroke, symptomatic heart failure in the previous 6 months or reduced left ventricular ejection fraction, a clinical diagnosis of or treatment for dementia, an expected survival of less than 3 years, unintentional weight loss during the previous 6 months, a systolic blood pressure below 110 mm Hg after 1 minute of standing, and residency in a nursing home. Whether these patients would benefit from the same intensive treatment remains unresolved. One person in the audience asked whether he should treat hypertension differently in his patients with diabetes. "We'll let the guidelines committees wrestle with that," said Dr Williamson. "I'm on one such guideline committee," the questioner shot back, and "I don't know what to do." The same man wanted to know if intensive treatment affected the quality of life of these older people. Dr Williamson said his team is preparing a report on that, but overall, the effect was "not a lot." Clinicians should take heed of these results. The strong evidence for a target systolic blood pressure of 120 mm Hg in most patients impressed session moderator Laurence Rubenstein, MD, MPH, from the University of Oklahoma College of Medicine in Oklahoma City. "This is quite a surprise," he told Medscape Medical News. "It's been controversial for quite some time." SPRINT seems to have been better designed than previous studies that have examined target blood pressures, he said. "I'm still not sure in my practice whether I'm going to aim for 120," he said. "But this is moving me to a more aggressive approach." "Clinicians should take heed of these results," Aram Chobanian, MD, from the Boston University Medical Center, writes in an editorial accompanying the JAMA publication. He recommends a "stepwise approach to treatment," starting with a target of 140 mm Hg. If patients tolerate that level well, clinicians could then aim for a target of 130 mm Hg. However, achieving that lower goal could prove challenging because it could require "additional medications, more careful monitoring, and more frequent clinic visits," he noted. This study was funded by the National Institutes of Health, the Department of Veterans Affairs, and the National Center for Advancing Translational Sciences. Takeda Pharmaceuticals International provided the medications. Dr Supiano, Dr Williamson, Dr Rubenstein, and Dr Chobanian have disclosed no relevant financial relationships. American Geriatrics Society (AGS) 2016 Annual Scientific Meeting. Presented May 19, 2016.

Su Stroke Implications of Recent Clinical Trials and Hypertension Guidelines on Stroke and Future Cerebrovascular Research

**Daniel T. Lackland, Robert M. Carey, Adriana B. Conforto, Clive Rosendorff, Paul K. Whelton, Philip B. Gorelick**

 <https://doi.org/10.1161/STROKEAHA.117.019379>

# vedi figura compicanze su Jama Implications of Recent Clinical Trials and Hypertension Guidelines on Stroke and Future Cerebrovascular Research

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Although stroke risks have been long recognized as associated with BP levels, recent trial results provide detailed evidence for the benefit of hypertension treatment and control. Further, as stroke represents a particular global burden for many of the larger world populations including China, India, and Brazil, high BP is at a critical point in time. Thus, the implications of the new study results and subsequent recommendations based on the evidence can have significant impact. The information presented as part of the International Stroke Conference. Session was timely and detailed and focused on the implications of the current study results building on the previous trials with a targeted interdisciplinary clinical audience. These data are particularly relevant given the recent report that the prior declines in stroke death rates have not continued in recent years, and the importance of strategically identifying opportunities for hypertension treatment and control.