

## International Hypertension Day, May 17<sup>th</sup> 2023

Hypertension (high blood pressure) is when the pressure in your blood vessels is too high (140/90 mmHg or higher). It is common but can be serious if not treated.

People with high blood pressure may not feel symptoms. The only way to know is to get your blood pressure checked.

Things that increase the risk of having high blood pressure include:

- older age
- genetics
- being overweight or obese
- not being physically active
- high-salt diet
- drinking too much alcohol

The prevalence of hypertension varies across regions and country income groups. The WHO African Region has the highest prevalence of hypertension (27%) while the WHO Region of the Americas has the lowest prevalence of hypertension (18%).

In Cameroon, out of a population of nearly 27,2 million inhabitants, arterial hypertension (HTA) affects 35% of the population. More than 17,000 of them die each year and one in three men suffers from it (MoH ; Cameroonian Heart Foundation). This disease is therefore responsible for a high death rate in Cameroon. Worse, this figure could rise to 40% by 2025 if nothing is done.

As part of this celebration, the Center for the Development of Best Practice in Health, propose these summaries of Cochrane systematic reviews aiming to inform the patients, medical staff and others stakeholders on this disease.

## **Journée mondiale de l'Hypertension, 17 Mai 2023**

L'hypertension (pression artérielle élevée) correspond à une pression trop élevée dans les vaisseaux sanguins (140/90 mmHg ou plus). Elle est fréquente mais peut être grave si elle n'est pas traitée.

Les personnes souffrant d'hypertension artérielle peuvent ne pas ressentir de symptômes. La seule façon de le savoir est de faire vérifier sa tension artérielle.

Parmi les facteurs qui augmentent le risque d'avoir une pression artérielle élevée figurent :

- un âge avancé
- le bagage génétique
- la surcharge pondérale ou l'obésité
- le manque d'activité physique
- une alimentation riche en sel
- une consommation excessive d'alcool.

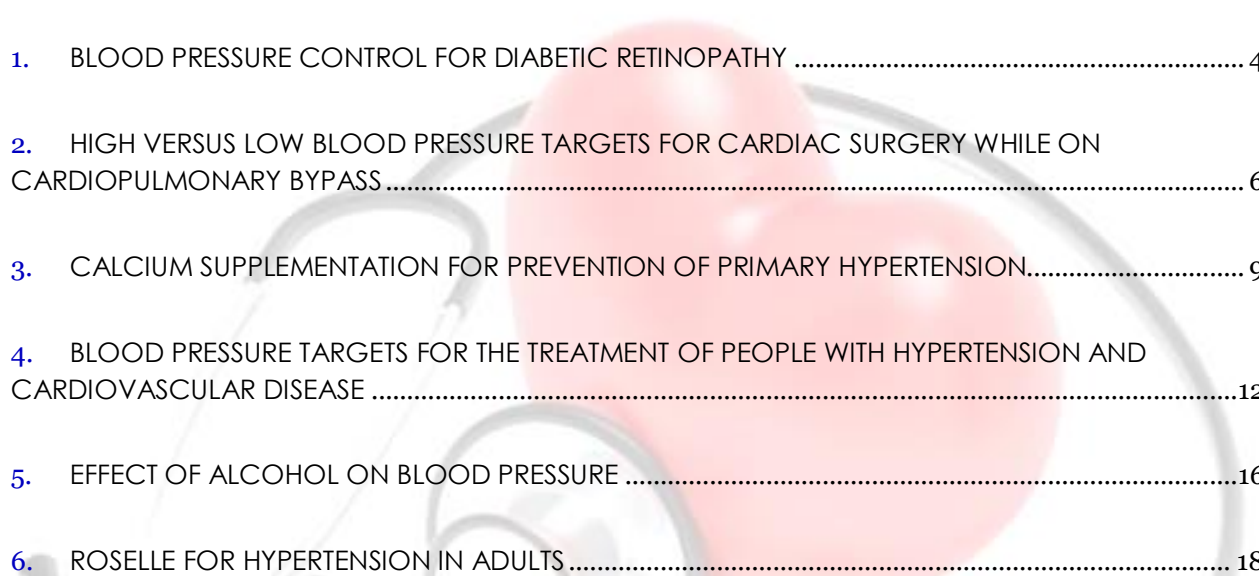
On considère qu'une personne souffre d'hypertension lorsque l'on constate à deux reprises, et pas le même jour, une tension artérielle systolique supérieure ou égale à 140 mmHg et/ou une tension artérielle diastolique supérieure ou égale à 90 mmHg.

La prévalence de l'hypertension varie selon les régions et les groupes de revenu des pays. C'est dans la Région africaine de l'OMS que la prévalence de l'hypertension est la plus élevée (27 %) et dans la Région OMS des Amériques qu'elle est la plus faible (18 %).

Au Cameroun, sur une population de près de 27,2 millions d'habitants, l'hypertension artérielle (HTA) touche 35% de la population. Plus de 17 000 d'entre eux décèdent chaque année et un homme sur 3 en souffre (MINSANTE ; Fondation camerounaise du Cœur). Cette maladie est par conséquent responsable d'un taux élevé de décès au Cameroun. Plus grave, ce chiffre pourrait d'ailleurs grimper à 40% d'ici 2025 si rien n'est fait.

Dans le cadre de cette célébration, le Centre pour le développement des Bonnes pratiques en santé, propose ce recueil de résumés de revues systématiques Cochrane visant à informer les patients, le personnel médical et les autres parties prenantes sur la prise en charge de l'hypertension.

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## 1. Blood pressure control for diabetic retinopathy

### Review question

Does blood pressure control prevent diabetic retinopathy or slow its progression?

### Background

Diabetes is characterized by high levels of blood glucose (sugar circulating in the blood) and is classified as either type 1 or type 2, depending on the underlying cause of increased blood glucose. A common complication in people with diabetes is diabetic retinopathy, often called 'diabetic eye disease,' which affects the blood vessels in the back of the eye. Diabetic retinopathy is a major cause of poor vision and blindness worldwide among adults of working age. Control of blood glucose reduces the risk of diabetic retinopathy and prevents worsening of the condition once it develops. Simultaneous treatment to reduce blood pressure among diabetics has been suggested as another approach to reduce the risks of development and worsening of diabetic retinopathy below the risks achieved by blood glucose control.

### Study characteristics

We found 29 randomized controlled trials (a type of study where participants are randomly assigned to one of two or more treatment groups), conducted primarily in North America and Europe, looking at the effects of several methods to lower blood pressure in 4620 type 1 and 22,565 type 2 diabetics, with 16 to 4477 participants in individual trials. The treatment and follow-up periods in these trials ranged from less than one year to nine years. Eight trials were funded in full by one or more drug companies. Ten other trials had received drug company support, usually in the form of study medications. The remaining 11 studies were conducted with support from government-sponsored grants and institutional support or did not report funding source. The evidence is current to September 2021.

### Key results

Overall, the evidence from 19 trials in which participants were treated for 5 years or longer provided modest support for lowering blood pressure to prevent diabetic retinopathy. However, lowering blood pressure did not keep diabetic retinopathy from worsening once it had developed, or prevent advanced stages of diabetic retinopathy that required treatment of the affected eyes. The evidence favored control of blood pressure for hypertensive type 2 diabetics for more outcomes than favored blood pressure lowering among participants with normal blood pressure. Treatment to reduce the blood pressure of people with diabetes is warranted for other health reasons, but the available evidence does not justify reduction of blood pressure in diabetics with normal blood pressures solely to prevent or slow diabetic retinopathy.

### **Quality of the evidence**

Overall, the quality of the evidence was low to moderate based on the reported information because some studies did not report all of their prespecified outcomes, and results from different studies were not always consistent.

### **Authors' conclusions**

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#### **Implications for practice**

Among the outcomes examined, benefits with respect to diabetic retinopathy after five years of intervention with tight or intensive blood pressure control were restricted primarily to the subgroup of trial participants with type 2 diabetes whom trial investigators had defined as hypertensive at trial entry. For this subgroup of nearly 9000 diabetics, beneficial effects, although modest, were estimated for four of the six outcomes evaluated in our analysis of the available evidence. On the other hand, among nearly 11,000 trial participants with type 2 diabetes and normal blood pressures, no outcome suggested a benefit regarding efforts to reduce blood pressure to lower levels after five years of intervention. Three trials conducted for participants with type 1 diabetes, all of whom were judged to have normal blood pressure at time of enrollment, provided inconsistent evidence regarding the effects of tight blood pressure control to reduce blood pressures to lower levels. The available evidence indicates that administration of antihypertensive agents does not decrease progression of retinopathy.

Insufficient evidence was available regarding the adverse effects of interventions to achieve current blood pressure targets to permit comparison of benefits and risks. Some physicians use angiotensin-converting enzyme inhibitors to prevent or delay the development or to slow progression of diabetic nephropathy and anticipate benefit regarding diabetic retinopathy. However, physicians should be aware that data on adverse events related to tight blood pressure control in diabetics are sparse; patients on these medications require close monitoring because they may be at risk for serious adverse events. A few trials reported incidents of hypotension and hyperkalemia experienced by trial participants. Of note, the cost of many of the multifactorial interventions used in the completed randomized trials may be unjustifiable for use among diabetics who are not hypertensive.

Treatment of hypertension in diabetics has been demonstrated to have substantial benefit on survival and other outcomes. Our investigation shows that it also has some benefits with respect to diabetic retinopathy. However, the currently available evidence does not support blood pressure lowering among diabetics without hypertension for the sole purpose of preventing or slowing progression of diabetic retinopathy or for avoiding the need for treatment for advanced stages of diabetic retinopathy.

Citation: Do DV, Han G, Abariga SA, Sleilati G, Vedula SS, Hawkins BS. Blood pressure control for diabetic retinopathy. Cochrane Database of Systematic Reviews 2023, Issue 3. Art. No.: CD006127. DOI: 10.1002/14651858.CD006127.pub3.  
<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD006127.pub3/full#CD006127-abs-0002>

## 2. High versus low blood pressure targets for cardiac surgery while on cardiopulmonary bypass

### Review question

What effect does a high blood pressure target compared with a low blood pressure target have in people undergoing heart surgery while on cardiopulmonary bypass (CPB).

### Key messages

A high blood pressure target compared with a lower target may result in little to no difference in kidney injury, cognition (ability to learn and understand) damage, or survival.

A high blood pressure target may increase the length of hospital stay slightly.

### What is heart surgery?

Heart surgery is a common type of surgery throughout the world. Most types of heart surgery are performed with CPB. CPB is a medical device that replaces the work of the heart and lungs by pumping the blood, and taking oxygen into and removing carbon dioxide from the blood. People undergoing heart surgery usually have high blood pressure (called hypertension). People with hypertension need a higher blood pressure to keep the blood flow to important organs such as the brain and kidneys. However, the evidence about the best blood pressure targets to use during heart surgery is scarce.

### What did we want to find out?

We wanted to assess the effects of a higher blood pressure target compared with a lower blood pressure target on the kidneys, brain, quality of life, and complications occurring while in hospital.

### What did we do?

We searched medical databases for clinical trials comparing high versus low blood pressure targets during heart surgery while on CPB.

### What did we find?

We found three studies including 737 people undergoing heart surgery. The duration of the studies varied from two to three years. The average age of included participants ranged between 65.8 and 76 years and about 72% were men.

There was little to no difference between a high and low blood pressure target in injury to the kidneys, cognition damage, or deaths. Although a high blood

pressure target may increase the length of hospital stay slightly, there may be little to no differences in quality of life or complications during hospitalisation.

### **What are the limitations of the evidence**

Our confidence in the evidence for kidney injury and death was very limited as the studies were small, did not provide data about everything that we were interested in, and included different types of people. We are also less confident in the evidence for cognition damage as the studies were small and did not provide data about everything that we were interested in.

### **How up to date is this evidence?**

The evidence is current to November 2021.

### **Authors' conclusions**

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#### **Implications for practice**

The findings of our review showed that a higher blood pressure target may make little or no difference to any outcomes including acute kidney injury (AKI), cognitive deterioration, or mortality among people undergoing cardiac surgery with cardiopulmonary bypass (CPB).

#### **Implications for research**

The small number of participants included in our review and the very low quality of evidence indicate that future research is highly likely to change the estimated effect. Further research is needed to evaluate the effect of a higher blood pressure, to investigate the best cut-off value for higher or lower mean arterial pressure (MAP) considering preoperative blood pressure in the CPB as well as post-CPB periods among people undergoing cardiac surgery with CPB. Conducting these studies will help to clarify the definition and effects of a higher blood pressure target for cardiac surgery with CPB.

### **Valeurs cibles de tension artérielle élevées ou basses en cas de chirurgie cardiaque sous circulation extracorporelle**

#### **Problématique de la revue**

*Quel est l'effet d'une cible de pression artérielle élevée par rapport à une cible de pression artérielle basse chez les personnes subissant une chirurgie cardiaque avec pontage cardio-pulmonaire (PCP).*

#### **Principaux messages**

*Une cible de pression artérielle élevée par rapport à une cible plus basse pourrait n'entraîner que peu ou pas de différence en termes de lésions rénales, de dommages cognitifs (capacité d'apprendre et de comprendre) ou de survie. Une cible de pression artérielle élevée pourrait augmenter légèrement la durée du séjour à l'hôpital.*

### **Qu'est-ce que la chirurgie cardiaque ?**

La chirurgie cardiaque est un type de chirurgie courant dans le monde entier. La plupart des types de chirurgie cardiaque sont réalisés avec un PCP. Le PCP est un dispositif médical qui remplace le travail du cœur et des poumons en pompant le sang, en apportant de l'oxygène et en éliminant le dioxyde de carbone du sang. Les personnes qui subissent une chirurgie cardiaque ont généralement une pression artérielle élevée (appelée hypertension). Les personnes souffrant d'hypertension ont besoin d'une pression artérielle plus élevée pour maintenir la circulation du sang vers des organes importants tels que le cerveau et les reins. Cependant, les données probantes concernant les meilleures cibles de pression artérielle à utiliser pendant une chirurgie cardiaque sont rares.

### **Que voulions-nous découvrir ?**

Nous voulions évaluer les effets d'une cible de pression artérielle plus élevée par rapport à une cible de pression artérielle plus basse sur les reins, le cerveau, la qualité de vie et les complications survenant pendant l'hospitalisation.

### **Comment avons-nous procédé ?**

Nous avons recherché dans les bases de données médicales les essais cliniques comparant des cibles de pression artérielle élevée par rapport à des cibles de pression artérielle basse pendant une chirurgie cardiaque sous circulation extracorporelle.

### **Qu'avons-nous trouvé ?**

Nous avons trouvé trois études incluant 737 personnes subissant une chirurgie cardiaque. La durée des études variait de deux à trois ans. L'âge moyen des participants inclus se situait entre 65,8 et 76 ans et environ 72 % étaient des hommes.

Il n'y avait que peu ou pas de différence entre une cible de pression artérielle élevée et une cible de pression artérielle basse en ce qui concerne les lésions rénales, les dommages cognitifs ou les décès. Bien qu'une cible d'hypertension artérielle puisse augmenter légèrement la durée du séjour à l'hôpital, il n'y a que peu ou pas de différences en termes de qualité de vie ou de complications pendant l'hospitalisation.

### **Quelles sont les limites des données probantes**

Notre confiance dans les données probantes concernant les lésions et les décès rénaux était très limitée car les études étaient de petite taille, ne fournissaient pas de données sur tous les aspects qui nous intéressaient et portaient sur différents types de personnes. Nous sommes également moins confiants dans les données probantes des dommages cognitifs, car les études étaient de petite taille et ne fournissaient pas de données sur tous les aspects qui nous intéressaient.



## **Ces données probantes sont-elles à jour ?**

*Les données probantes sont à jour jusqu'en novembre 2021.*

Citation: Kotani Y, Kataoka Y, Izawa J, Fujioka S, Yoshida T, Kumasawa J, Kwong JSW. High versus low blood pressure targets for cardiac surgery while on cardiopulmonary bypass. *Cochrane Database of Systematic Reviews* 2022, Issue 11. Art. No.: CD013494. DOI: 10.1002/14651858.CD013494.pub2.  
<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013494.pub2/full/fr#CD013494-abs-0015>

### **3. Calcium supplementation for prevention of primary hypertension**

#### **Review question**

We wanted to find out the effects of calcium intake on blood pressure in people with normal blood pressure.

#### **Background**

Hypertension is a serious health problem that increases the risk of heart and kidney diseases. Several studies have shown that increasing calcium intake lowers blood pressure even in individuals within a normal blood pressure range. Increasing calcium intake also has benefits for pregnancy outcomes, effects which are thought to be mediated also by blood pressure reduction. High blood pressure has been identified as a major risk factor for mortality and even small reductions in blood pressure can decrease the occurrence of coronary artery disease, stroke and death.

#### **Study characteristics**

We selected studies that assessed the effect of dietary calcium interventions such as supplementation or food fortification on blood pressure in normotensive people of all ages. Searches were last run in September 2020.

#### **Key findings**

This review analysed information from 20 trials of which 18 trials (3140 participants) provided data for the effect of the intervention. We found that an increase in calcium intake slightly reduces both systolic and diastolic blood pressure by 1.37 mmHg lower and by 1.45 mmHg lower, respectively. This effect was higher with doses of calcium above 1000 mg/day. Systolic blood pressure was reduced by 1.05 mmHg with doses of calcium 1000 to 1500 mg/day and by 2.79 mmHg with doses of calcium equal to or over 1500 mg/day.

We noted a reduction in blood pressure in both men and women and at ages from 11 to 82 years old, but the reduction was greater among younger people. Systolic blood pressure was reduced by 1.86 mmHg among those less than 35 years and by 0.97 mmHg among those 35 years or older.

None of the studies reported adverse events. We need further research to determine the ideal dosage of supplementation and whether it is more effective and safer as part of the diet or as a supplement.

### **Quality of the evidence**

We found high quality of evidence for systolic and diastolic blood pressure in both men and women. The quality of evidence was also high for participants 35 years or older and moderate for younger people.

The quality of evidence was high for doses of calcium of 1000 to 1500 mg/day and was moderate for lower or higher doses.

Five of the 18 trials were industry funded.

### **Authors' conclusions**

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#### **Implications for practice**

An increase in calcium intake slightly reduces both systolic and diastolic blood pressure in normotensive people. The effect was confirmed in multiple prespecified subgroups, including a possible dose-response effect, reinforcing the efficacy of the intervention. The effects can be observed after only 3.5 months of intervention. Although the effect is small, an adequate calcium intake should be an objective to be reached in the general population.

#### **Implications for research**

Randomised controlled trials (RCT) are needed with high power in the early stages of life for a long period of time (at least one year), randomising young people of both sexes to attain a daily calcium intake of at least 1 gm in comparison with a control group. Subgroup analyses should be prespecified and powered to assess outcomes on systolic and diastolic blood pressure related to basal calcium intake, age, sex, basal blood pressure, and body mass index (BMI).

There is a need for clinical and basic studies designed to confirm the mechanisms proposed about the effect of calcium intake on blood pressure (Villa-Etchegoyen 2019). This will allow the identification of early markers of individuals that could be more susceptible to calcium intake.

More research is needed to assess the dose required and the best strategy to improve calcium intake, comparing the effect of dietary calcium with a supplemental version. Furthermore, if the effect of calcium intake on blood pressure is confirmed, it will be desirable that studies of calcium fortification include populations with low calcium intake to assess a universal effect on blood pressure.

Any future research on calcium intake must report adverse events, particularly in older people.

## **La supplémentation en calcium dans la prévention de l'hypertension artérielle primitive**

### **Problématique de la revue**

Nous avons voulu déterminer les effets de l'apport en calcium sur la pression artérielle chez les personnes ayant une pression artérielle normale.

### **Contexte**

L'hypertension est un problème de santé grave qui augmente le risque de maladies cardiaques et rénales. Plusieurs études ont montré que l'augmentation de l'apport en calcium abaisse la tension artérielle, même chez les personnes dont la tension artérielle est normale. L'augmentation de l'apport en calcium a également des effets bénéfiques sur l'issue de la grossesse, effets que l'on pense être médiés également par la réduction de la pression artérielle. L'hypertension artérielle a été identifiée comme un facteur de risque majeur de mortalité et même de petites réductions de la pression artérielle peuvent diminuer l'apparition de maladies coronariennes, d'accidents vasculaires cérébraux et de décès.

### **Caractéristiques des études**

Nous avons sélectionné des études ayant évalué l'effet de la supplémentation en calcium ou de l'enrichissement alimentaire en calcium sur la pression artérielle de patients normotendus de tout âge. Les recherches ont été effectuées pour la dernière fois en septembre 2020.

### **Principaux résultats**

Cette revue a analysé les informations de 20 essais dont 18 essais (3140 participants) ont fourni des données sur l'effet de l'intervention. Nous avons constaté qu'une augmentation de l'apport en calcium réduit légèrement la pression artérielle systolique et diastolique, respectivement de 1,37 mmHg et de 1,45 mmHg. Cet effet était plus important avec des doses de calcium supérieures à 1000 mg/jour. La pression artérielle systolique a été réduite de 1,05 mmHg avec des doses de calcium de 1000 à 1500 mg/jour et de 2,79 mmHg avec des doses de calcium égales ou supérieures à 1500 mg/jour.

Nous avons constaté une réduction de la pression artérielle chez les hommes et les femmes et à des âges allant de 11 à 82 ans, mais la réduction était plus importante chez les personnes plus jeunes. La pression artérielle systolique a été réduite de 1,86 mmHg chez les moins de 35 ans et de 0,97 mmHg chez les personnes âgées de 35 ans ou plus.

Aucune des études n'a rapporté d'effets indésirables. Nous avons besoin de recherches supplémentaires pour déterminer le dosage idéal de la supplémentation et pour savoir si elle est plus efficace et plus sûre dans le cadre du régime alimentaire ou sous forme de supplément.

### **Qualité des données probantes**

*Nous avons trouvé des données probantes de qualité élevée concernant la pression artérielle systolique et diastolique chez les hommes et les femmes. La qualité des données probantes était également élevée chez les participants âgés de 35 ans ou plus et modérée chez les plus jeunes.*

*Les données probantes étaient de qualité élevée pour les doses de calcium de 1000 à 1500 mg/jour, et de qualité modérée pour les doses plus faibles ou plus élevées. Cinq des 18 essais ont été financés par l'industrie.*

Citation: Cormick G, Ciapponi A, Cafferata ML, Cormick MS, Belizán JM. Calcium supplementation for prevention of primary hypertension. Cochrane Database of Systematic Reviews 2022, Issue 1. Art. No.: CD010037. DOI: 10.1002/14651858.CD010037.pub4.  
<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD010037.pub4/full#CD010037-abs-0002>

## **4. Blood pressure targets for the treatment of people with hypertension and cardiovascular disease**

### **Key messages**

The evidence identified in this review does not support lower blood pressure goals over standard goals in people with high blood pressure (also known as hypertension) and heart or vascular (blood vessels and circulatory system) problems

More new trials are needed to examine this question

### **What is high blood pressure?**

Hypertension (high blood pressure) is a long-term condition that increases the risk of health problems such as heart attack, stroke, or kidney disease.

### **How is high blood pressure treated?**

Many people with heart or vascular problems also have high blood pressure. Some clinical guidelines recommend a lower blood pressure goal (135/85 mmHg or lower) for people with high blood pressure and previous heart or vascular problems than for those without (140 mmHg to 160 mmHg or less systolic (pressure when heart pumps blood around the body) and 90 mmHg to 100 mmHg diastolic or less (pressure when heart rests between beats) are standard blood pressure goals). It is unclear whether lower goals lead to overall health benefits.

### **What did we want to find out?**

We wanted to find out if lower blood pressure goals are better than standard blood pressure goals for people with high blood pressure who also have heart or vascular problems.

### **What did we do?**

We searched for studies that compared lower blood pressure targets to standard blood pressure targets in people with high blood pressure and a history

of cardiovascular disease (heart disease, angina, stroke, vascular disease). Studies had to talk about results such as deaths or other events caused by diseases of the heart or the blood vessels, such as heart attack, stroke, or heart failure. Studies could also talk about other types of health-related side effects. We only chose randomized studies (where people were randomly put into one of two or more treatment groups) with 50 or more people in each group and that lasted at least six months.

### **What did we find?**

In this update, we found one new study giving a total of seven studies with 9595 people included in the review. We found little to no difference in total numbers of deaths, or heart or vascular deaths between lower and standard blood pressure goals. There was also little to no difference for the total number of heart or vascular problems and total serious harms, but the evidence was less certain.

### **What are the limitations of the evidence?**

Based on uncertainty and limited information, we found more people dropped out of the trials because of medicine-related harms in the lower blood pressure target group and no overall health benefit among people in the lower target group.

### **How up to date is this evidence?**

This is the third update of a review first published in 2017. The evidence is up to date to January 2022.

### **Authors' conclusions**

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#### **Implications for practice**

The evidence identified in this review from randomized controlled trials does not support lower blood pressure targets (less than 135/85 mmHg) as compared to standard blood pressure targets (less than 140 mmHg to 160 mmHg/90 mmHg to 100 mmHg) in people with hypertension and established cardiovascular disease (myocardial infarction, stroke, chronic peripheral vascular occlusive disease, or angina pectoris).

We analyzed systolic, diastolic, or mean blood pressure goals as a whole and separately and obtained similar findings of little or no difference. There is a lack of benefit for the lower blood pressure target in total or cardiovascular mortality, total cardiovascular events, and serious adverse events. Some uncertainties remain as the evidence is very low certainty for withdrawals due to adverse effects.

Predefined subgroup analyses in older people, in people with diabetes, or based on participant sex does not suggest any differences in these conclusions. According to the best available evidence, lower targets for people with hypertension and established cardiovascular disease provide minimal or no net health benefit.

### **Implications for research**

Well-designed randomized controlled trials assessing lower blood pressure targets in people with hypertension and established cardiovascular disease are needed to ascertain the benefits and harms derived from intensive and more conservative strategies.

We have identified seven ongoing studies in people with stroke and coronary disease (BROAD 2019; EPICS-Pilot 2020; ESPRIT 2019; IBIS 2019; NCT03666351; OPTIMAL-DIABETES 2019; OPTIMAL Stroke 2019), but additional studies exploring other types of basal cardiovascular disease (e.g. peripheral vascular disease, haemorrhagic stroke) are required. Future research should aim to report mortality rates and all serious adverse event outcomes.

Having access to individual participant data and other relevant documents (protocols, clinical study reports, raw data) becomes a major strength of systematic reviews with meta-analysis. Thus, the authors of past or future trials are highly encouraged to share their databases.

## **Valeurs cibles de pression artérielle dans le traitement des personnes souffrant d'hypertension et de maladies cardiovasculaires**

### **Principaux messages**

*Les données probantes identifiées dans cette revue ne soutiennent pas des valeurs cibles de pression artérielle inférieures aux valeurs cibles standard chez les personnes souffrant d'une pression artérielle élevée (également connue sous le nom d'hypertension) et de problèmes cardiaques ou vasculaires (vaisseaux sanguins et système circulatoire).*

*D'autres nouveaux essais sont nécessaires pour examiner cette question*

### **Qu'est-ce que l'hypertension artérielle ?**

*L'hypertension (pression artérielle élevée) est une affection de longue durée qui augmente le risque de problèmes de santé tels que les crises cardiaques, les accidents vasculaires cérébraux ou les maladies rénales.*

### **Comment traite-t-on l'hypertension artérielle ?**

*De nombreuses personnes souffrant de problèmes cardiaques ou vasculaires souffrent également d'hypertension artérielle. Certaines recommandations cliniques préconisent une valeur cible de pression artérielle plus basses (135/85 mmHg ou moins) chez les personnes souffrant d'hypertension et ayant déjà eu des problèmes cardiaques ou vasculaires que pour celles qui n'en ont pas (140 mmHg à 160 mmHg ou moins systolique (pression lorsque le cœur pompe le sang dans tout le corps) et 90 mmHg à 100 mmHg diastolique ou moins (pression lorsque le cœur se repose entre les battements) sont les valeurs cibles de pression artérielle standard). Il n'est pas clair si des valeurs cibles moins élevées entraînent des bénéfices globaux pour la santé.*

### **Que voulions-nous découvrir ?**

Nous voulions savoir si des valeurs cibles de pression artérielle plus bas sont meilleurs que des valeurs cibles de pression artérielle standard pour les personnes souffrant d'hypertension artérielle et de problèmes cardiaques ou vasculaires.

### **Comment avons-nous procédé ?**

Nous avons recherché des études comparant des valeurs cibles de pression artérielle plus bas à des valeurs cibles de pression artérielle standard chez des personnes souffrant d'hypertension artérielle et ayant des antécédents de maladie cardiovasculaire (cardiopathie, angine, accident vasculaire cérébral, maladie vasculaire). Les études devaient parler des résultats tels que les décès ou autres événements causés par des maladies du cœur ou des vaisseaux sanguins, comme la crise cardiaque, l'accident vasculaire cérébral ou l'insuffisance cardiaque. Les études pourraient également porter sur d'autres types d'effets secondaires liés à la santé. Nous n'avons retenu que les études randomisées (où les personnes sont placées au hasard dans l'un des deux groupes de traitement ou plus) comptant au moins 50 personnes dans chaque groupe et ayant duré au moins six mois.

### **Qu'avons-nous trouvé ?**

Dans cette mise à jour, nous avons trouvé une nouvelle étude, ce qui donne un total de sept études avec 9595 personnes incluses dans la revue. Nous n'avons trouvé que peu ou pas de différence dans le nombre total de décès, ou de décès d'origine cardiaque ou vasculaire entre les valeurs cibles de pression artérielle inférieurs et standard. Il y avait également peu ou pas de différence pour le nombre total de problèmes cardiaques ou vasculaires et le nombre total de préjudices graves, mais les données probantes étaient moins certaines.

### **Quelles sont les limites des données probantes ?**

Sur la base d'incertitudes et d'informations limitées, nous avons constaté qu'un plus grand nombre de personnes ont abandonné les essais en raison d'effets néfastes liés aux médicaments dans le groupe cible de pression artérielle inférieure et de l'absence de bénéfice global pour la santé chez les personnes du groupe cible inférieur.

### **Ces données probantes sont-elles à jour ?**

Il s'agit de la troisième mise à jour d'une revue publiée pour la première fois en 2017. Les données probantes sont à jour jusqu'en janvier 2022.

*Citation:* Saiz LC, Gorricho J, Garjón J, Celaya MC, Erviti J, Leache L. Blood pressure targets for the treatment of people with hypertension and cardiovascular disease. Cochrane Database of Systematic Reviews 2022, Issue 11. Art. No.: CD010315. DOI: 10.1002/14651858.CD010315.pub5.

[Valeurs cibles de pression artérielle dans le traitement des personnes souffrant d'hypertension et de maladies cardiovasculaires - Saiz, LC - 2022 | Cochrane Library](#)

## 5. Effect of alcohol on blood pressure

### Review question

We reviewed available evidence about the short-term effects of different doses of alcoholic drinks compared to non-alcoholic drinks on blood pressure and heart rate in adults ( $\geq 18$  years) with both normal and raised blood pressure.

### Background

Drinking excessive alcohol is considered one of the most common causes of raised blood pressure. We wanted to quantify the effects of a single dose of alcohol on blood pressure and heart rate within 24 hours of consumption.

### Study characteristics

We included 32 randomised controlled trials involving 767 participants published up to March 2019. Although these trials included adults from 18 to 96 years of age with various health conditions, most study participants were young healthy males. The source of funding was not reported for a majority of the studies.

### Key results

For low doses of alcohol, we found that one glass of alcohol had little to no effect on blood pressure and increased heart rate within six hours of drinking. We are moderately certain that medium-dose alcohol decreased blood pressure and increased heart rate within six hours of consumption. We did not see any significant change in blood pressure or heart rate after that, but the evidence was limited.

We are also moderately certain that high-dose alcohol decreased blood pressure within six hours, and the effect lasted up to 12 hours. After that, blood pressure was found to be increased. Heart rate increased significantly after alcohol consumption and remained increased at all times measured.

Thus alcohol decreases blood pressure initially (up to 12 hours after ingestion) and increases blood pressure after that. Alcohol consistently increases heart rate at all times within 24 hours of consumption.

### Authors' conclusions

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### Implications for practice

The magnitude and direction of the effects of alcohol on blood pressure depend on the time after alcohol consumption. Moderate-certainty evidence shows that acute consumption of medium to high doses of alcohol decreases blood pressure within the first six hours and for up to 12 hours after alcohol consumption. For times greater than 13 hours, high doses of alcohol consumption increased blood pressure. Low, moderate, and high alcohol



consumption increased heart rate within the first six hours. High alcohol consumption also increased heart rate from 7 to 12 hours and after 13 hours. Most of the evidence from this review is relevant to healthy males, as these trials included small numbers of women (126 females compared to 638 males).

### **Implications for research**

This review did not find any eligible RCTs that reported the effects of alcohol on women separately. Because women could be affected differently by alcohol than men, future RCTs in women are needed. If future RCTs include both men and women, it is important that their blood pressure and heart rate readings are reported separately. Although eligible studies included East Asian, Latino, and Caucasian populations, they lacked African, South Asian, and Native Hawaiian/other Pacific Islander representation. Most of the hypertensive participants in the included studies were Japanese, so it is unclear if the difference in blood pressure between alcohol and placebo groups was due to the presence of genetic variants or the presence of hypertension. Large RCTs including both hypertensive and normotensive participants with various ethnic backgrounds are required to understand the effects of alcohol on blood pressure and heart rate based on ethnicity and the presence of hypertension. More RCTs are needed to study the effects of low-dose alcohol to better delineate the dose-response effects of alcohol on BP and heart rate. RCTs with measurements more than 24 hours after alcohol consumption are needed to see how long the effect of high-dose acute alcohol consumption lasts.

## **Effet de l'alcool sur la pression artérielle**

### **Problématique de la revue**

*Nous avons examiné les données probantes disponibles concernant les effets à court terme de différentes doses de boissons alcoolisées par rapport aux boissons non alcoolisées sur la pression artérielle et la fréquence cardiaque chez des adultes ( $\geq 18$  ans) ayant une pression artérielle normale et élevée.*

### **Contexte**

*La consommation excessive d'alcool est considérée comme l'une des causes les plus fréquentes d'hypertension artérielle. Nous voulions quantifier les effets d'une dose unique d'alcool sur la pression artérielle et la fréquence cardiaque dans les 24 heures suivant la consommation.*

### **Caractéristiques des études**

*Nous avons inclus 32 essais contrôlés randomisés portant sur 767 participants publiés jusqu'en mars 2019. Bien que ces essais aient inclus des adultes âgés de 18 à 96 ans présentant divers problèmes de santé, la majorité des participants à l'étude étaient de jeunes hommes en bonne santé. La source de financement n'a pas été indiquée pour la majorité des études.*

### **Principaux résultats**

*Pour de faibles doses d'alcool, nous avons constaté que la consommation d'un seul verre d'alcool avait peu ou pas d'effet sur la pression artérielle et augmentait la fréquence cardiaque dans les six heures suivant la consommation.*

*Nous sommes modérément certains que la consommation de doses moyennes d'alcool diminuait la pression artérielle et augmentait la fréquence cardiaque dans les six heures suivant la consommation. Nous n'avons pas constaté de changement significatif de la pression artérielle ou de la fréquence cardiaque passé ce délai, mais les données probantes étaient limitées.*

*Nous sommes également modérément certains que la consommation de doses importantes d'alcool provoquait une baisse de la pression artérielle en six heures, et que l'effet perdurait jusqu'à 12 heures après la consommation. Passé ce délai, nous avons constaté une augmentation de la pression artérielle. La fréquence cardiaque a augmenté de manière significative suite à la consommation d'alcool et est restée élevée à chaque moment mesuré.*

*Ainsi, l'alcool diminue la pression artérielle dans un premier temps (jusqu'à 12 heures après ingestion) et provoque ensuite son augmentation. L'alcool augmente de manière constante la fréquence cardiaque à tout moment dans les 24 heures suivant la consommation.*

Citation: Tasnim S, Tang C, Musini VM, Wright JM. Effect of alcohol on blood pressure. Cochrane Database of Systematic Reviews 2020, Issue 7. Art. No.: CD012787. DOI: 10.1002/14651858.CD012787.pub2.  
<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD012787.pub2/full/fr#CD012787-abs-0016>

## **6. Roselle for hypertension in adults**

### **Key messages:**

We don't know if taking Roselle lowers blood pressure in people with hypertension (high blood pressure).

We don't know if Roselle is safe for people with hypertension to consume or if it affects heart rate or pulse pressure.

### **What did we want to find out?**

We wanted to know if red tea (Roselle) is a safe and effective treatment for lowering blood pressure in adults with high blood pressure when compared to placebo (dummy treatment) or no treatment. Roselle contains substances known as anthocyanins which have been shown to have lowered blood pressure in studies carried out in animals and humans.

### **What did we do?**

We searched for studies that compared Roselle to placebo or no treatment in people with hypertension.

### **What did we find?**

We included one study with 60 participants with type 2 diabetes and hypertension. Participants consumed either a capsule of pure Roselle extract or a placebo containing lactose for eight weeks. We are not sure if Roselle has an effect on blood pressure and the study did not report on the safety of Roselle or on changes to heart rate.

### **What are the main limitations of the evidence?**

We found only one trial which included a small number of participants, all of whom had diabetes. More studies with various types of participants and different ways of taking Roselle (forms, amounts, and time of day, length of use) are needed.

### **How up to date is the evidence?**

The review updates our previous review. We searched for randomised controlled trials (studies in which participants are randomly assigned to one of two or more treatment groups) in core databases up to August 2021, and searched local and regional Chinese and Thai databases by hand up to October 2020.

## **Authors' conclusions**

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### **Implications for practice**

The available evidence regarding the effectiveness and safety of Roselle for hypertensive adults compared to placebo or no treatment is very uncertain and did not permit the drawing of any conclusions.

### **Implications for research**

There is a need for well-conducted randomised controlled trials (RCTs) investigating the effectiveness of Roselle compared to placebo on controlling or lowering blood pressure in hypertensive patients, that evaluate both short- and long-term administration of treatment. Future studies should provide information regarding preparation of Roselle, and report findings according to the CONSORT Statement. In addition, future RCTs need to be well-planned for investigating and reporting adverse events of Roselle. The current evidence is limited to adults with an average age of 55.2 years; there is a need for future RCTs to investigate adults with an age range of 18 to 60 years.

## **La roselle dans l'hypertension chez l'adulte**

### **Principaux messages :**

*Nous ne savons pas si la prise de roselle diminue la tension artérielle chez les personnes souffrant d'hypertension (pression artérielle élevée).*

*Nous ne savons pas si la roselle peut être consommée sans danger par les personnes souffrant d'hypertension ou si elle a un effet sur la fréquence cardiaque ou la pression pulsée.*

### **Que voulions-nous découvrir ?**

Nous voulions savoir si le thé rouge (roselle) est un traitement sûr et efficace pour abaisser la tension artérielle chez les adultes souffrant d'hypertension, par rapport à un placebo (traitement factice) ou à l'absence de traitement. La roselle contient des anthocyanes dont des études menées sur des animaux et des humains ont montré qu'elles abaissaient la tension artérielle.

**Comment avons-nous procédé ?**

Nous avons recherché des études qui comparaient la roselle à un placebo ou à l'absence de traitement chez des personnes souffrant d'hypertension.

**Qu'avons-nous trouvé ?**

Nous avons inclus une étude portant sur 60 participants atteints de diabète de type 2 et d'hypertension. Les participants ont consommé soit une capsule d'extrait de roselle pur, soit un placebo contenant du lactose pendant huit semaines. Nous ne sommes pas sûrs que la roselle ait un effet sur la pression artérielle et l'étude n'a pas rapporté la sécurité de la roselle ou des changements du rythme cardiaque.

**Quelles sont les principales limites des données probantes ?**

Nous n'avons trouvé qu'un seul essai qui ne comprenait qu'un petit nombre de participants, tous diabétiques. D'autres études avec différents types de participants et différentes façons de prendre la roselle (formes, quantités, moment de la journée, durée d'utilisation) sont nécessaires.

**Les données probantes sont-elles à jour ?**

Cette revue met à jour notre revue précédente. Nous avons recherché des essais contrôlés randomisés (études dans lesquelles les participants sont assignés de manière aléatoire à l'un des deux ou plus groupes de traitement) dans les bases de données principales jusqu'en août 2021, et nous avons effectué des recherches manuelles dans les bases de données locales et régionales chinoises et en thaïlandaises jusqu'en octobre 2020.

Citation: Pattanittum P, Ngamjarus C, Buttramee F, Somboonporn C. Roselle for hypertension in adults. Cochrane Database of Systematic Reviews 2021, Issue 11. Art. No.: CD007894. DOI: 10.1002/14651858.CD007894.pub3.

[Roselle for hypertension in adults - Pattanittum, P - 2021 | Cochrane Library](#)

Source connexe : <https://lurgentiste.com/cameroun-35-de-la-population-souffrent-dhypertension-arterielle-sur-25-millions-dhabitants/>

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