



# Kidney news

Volume 5 Issue 4  
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Merry Christmas for the 2003 year, and all the best for the 2004 year! Thank you all for your on-going referrals, and support. This newsletter, *Kidney news*, comes hand-delivered.

## HYPERTENSION and the KIDNEYS

Recently I presented to a group of GPs, a presentation on hypertension, particularly difficult to control BP, and its importance in renal medicine. Some of that talk is summarised in this newsletter, and if you would like me to present a similar talk to you and your colleagues, just let me know, and I would be willing to make a time with you all.

### Essential hypertension

Factors that contribute to essential hypertension include:

1. family history
2. aging
3. race. None of which are treatable.

Factors that contribute to hypertension that are correctable include:

1. sodium intake
2. alcohol intake
3. weight

### Sodium intake

Populations with low salt intake have a low incidence of hypertension. Much of the ready-made / prepared foods available today are high in salt, as both flavouring and as a preservative. Many patients feel they are on a low-salt diet with no salt in the cooking or added at the table. Often, because foods are high in salt, this no-added salt diet is not actually low-salt. Often the salt intake exceeds 150mmol/24 hours. **A low salt diet for hypertension management should be <100mmol, preferably <70mmol, per 24 hours.**

### Alcohol intake

Alcohol is protective of heart disease in one or two average sized drinks per day. In quantities greater than this, however, the effects are increasingly harmful. And the benefits are lost. Hypertension is one of these harmful outcomes. More than 2 standardised drinks per day increases the chance of hypertension by 1.5 to 2 fold. Five or more standard drinks per day increases the risk of hypertension substantially. In one study, it was shown alcohol was a contributing factor in 11% of hypertensive males.

### Weight

Overweight contributes to both the incidence of hypertension, and its reduced control. Weight reduction, can reduce the hypertensive risk, and make the hypertension easier to control.

A fall in blood pressure of between 0.3 and 1 mmHg is seen per 1 kg weight loss. This benefit is seen more in males than females.

### Secondary hypertension

Factors that contribute to secondary hypertension include:

1. renal disease
2. oral contraceptives
3. pheochromocytoma
4. primary aldosteronism
5. Cushing's syndrome
6. hypothyroidism
7. hyperthyroidism
8. hyperparathyroidism
9. sleep apnoea
10. coarctation of the aorta.

Screening tests for these secondary causes should be performed at least once in hypertensives. People at high risk of a secondary cause are the young (pre-puberty and early adolescent) and patients presenting with hypertension, first diagnosed, over the aged of 50 years.

Often treatment of the cause will reduce the need – if not completely remove the need – for medications.

### Pheochromocytoma

Less likely to have false negatives if at least two 24-hour urine collections are performed, and they are performed on two **consecutive** days. Sometimes stress leads to a rise in catecholamines above the test reference range. Usually this stress induced catecholamine rise does not last for two consecutive days.

The symptom triad of this diagnosis is: **headaches, sweating and palpitations**. All three symptoms, however, are seen with stress too!

### Primary aldosteronism

Be suspicious of this when there is unexplained **hypokalaemia**, in hypertensives (not on diuretics and other potassium losing agents).

### Cushing's

Consider if stretch marks, central obesity, ecchymoses, and / or muscle weakness.

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## Sleep apnoea

Suggestive if symptoms of snoring, obesity, morning headaches, and daytime drowsiness.

## Renal disease

Renal disease is an uncommon cause of all hypertension – about 2%. However, is the most common cause of secondary hypertension.

Renal artery stenosis screening remains a challenge. Be suspicious in patients who are newly diagnosed hypertensives, have renal impairment (especially after initiating an ACE inhibitor or ARB), or refractory hypertension, or loss of control of a previously well controlled hypertensive.

## Baseline tests for the new hypertensive

**Plasma electrolytes, urea, creatinine, calcium and phosphate. Urine dipstick for blood and protein. 24 hour urine for creatinine clearance and proteinuria if plasma creatinine or urine abnormal.**

### Full blood count.

Other specific tests are appropriate for the when a specific secondary cause is suspected – eg. Aldosterone levels when there is hypokalaemia.

Consider renal ultrasound – for size, and differential size (asymmetrical kidneys of 1.5cm or more difference may suggest renal artery stenosis in the smaller kidney).

Consider renal artery stenosis if there is generalised vascular disease.

ECG and chest radiograph as a baseline.

## Screening tests for renal artery stenosis

**Captopril renal scintiscan** is useful in high risk (eg. Generalised vascular disease) or high degree of clinical suspicion patients (recurrence in previously proven renal artery stenosis). Not a good screening test in low risk patients - as false negative rate is too high.

**Doppler scan** good, but really depends upon local operator experience and skill.

**MRA good.** Open MRA not as good resolution though.

**Gold standard is bilateral selective renal arteriogram.**

The arteriogram also allows diagnosis and treatment in the one go.

## When to refer?

1. Hypertension is difficult to treat.
2. Previously well controlled hypertension now uncontrolled.
3. Cannot achieve goal BP (< 130 / 70 mmHg in renal disease)
4. Primary hypertension therapies not successful.
5. Secondary hypertension – for investigation.
6. Suspicion of renal causes of hypertension.

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## Qualifications

BSc (Biochemistry, Otago) 1981

MBChB (Otago) 1984

FRACP 1992

MRCP(UK) 1993

## Interests

Investigation of renovascular disease and hypertension

Management of urinary tract infections

Investigation of urinary calculi

Investigation of proteinuria and haematuria

Early detection, investigation and management of impaired renal function.

Renal nutrition.

**For All Appointments  
at all clinic locations, call:  
(09) 277 1540**

## Consulting Rooms At:

**Eastcare Specialist Centre**

260 Botany Road,

**BOTANY DOWNS**

**Takanini Care Accident & Medical Clinic**

106 Great South Road,

**TAKANINI**

**Waitemata Specialist Centre**

15 Shea Terrace,

**TAKAPUNA**

**188 Specialist Centre**

188 St Helier's Bay Road,

**St. HELIER'S**

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