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Dear Doctor,

This patient follows (or hopes to follow) the Australian Dietary Guidelines for better health at a lower salt intake, but is under medical care and so may need your advice and supervision please [1]:

- many obstetricians are cautious about an abrupt change in salt intake during pregnancy, although trouble is unusual, and 42 women in a Dutch study dropped to 20 mmol/day from the 14th week of pregnancy until after delivery without incident [2];
- a few rare conditions affect salt metabolism, including Addison's disease, salt-losing nephritis, Bartter's syndrome, cystic fibrosis, gastro-intestinal fistula and ileostomy [1];
- prescription drugs—especially diuretics—may cause drug/diet interactions that can be as dangerous as drug/drug interactions, and this patient is—or may be—taking a diuretic.

Problems with diuretics

I am sending this letter because it is not yet well known that full dietary compliance with the salt guideline reduces 24-hour sodium excretion below 50 mmol/day [3]. This matters because diuretics can cause hyponatraemia at any salt intake, but the risk is inversely proportional to the salt intake and unacceptable below 50 mmol/day (the benefit/risk ratio is reversed) [4-6].

Moreover this level of salt control removes one of the main indications for diuretics. Salt in ordinary diets expands the extracellular fluid (ECF) volume and diuretics contract it, but below 50 mmol/day the ECF volume is physiologically normal (unexpanded) [7].

Salt is a powerful trigger for the vertigo of Meniere's disorder and vertigo is rare below 50 mmol/day [8, 9]. A Sydney teaching hospital finds sodium excretion rates below 50 mmol/day 'more effective and less troublesome than diuretics' [10].

The book *Salt Matters* has seven pages on 24-hour urine collection [11]. It is optional, but clinically useful—the 50 mmol boundary picks out patients who control their salt intake well enough to expect measurable results, and identifies the few who need more help and longer follow-up.

Interaction with other drugs

Good salt control can turn a therapeutic dose of lithium carbonate into an over-dose. The prescriber (usually a psychiatrist) needs to be fully aware beforehand of any change in salt intake.

It potentiates most antihypertensive drugs except calcium channel blockers. You can usually reduce the dose and side effects of ACE inhibitors and angiotensin antagonists and sometimes discontinue them.

There are a few things to bear in mind when monitoring the electrolyte balance:

- the kidneys regulate the blood electrolytes within narrow limits, so serum sodium has no connection with salt intake—it can be normal when sodium excretion exceeds 500 mmol/day.
- the most accurate measure for sodium intake is 24-hour urinary sodium excretion.
- the laboratory reference range for urinary sodium excretion is merely mathematical (the middle 95% of the population distribution, which has no bearing on human physiology).
- similarly the reference range for blood sodium reflects only the distribution in a population consuming 10–30 times more sodium and chloride than it needs for perfect health.
- hyponatraemia—based only on the lab reference range—is seldom treated if symptomless.

Yours sincerely,

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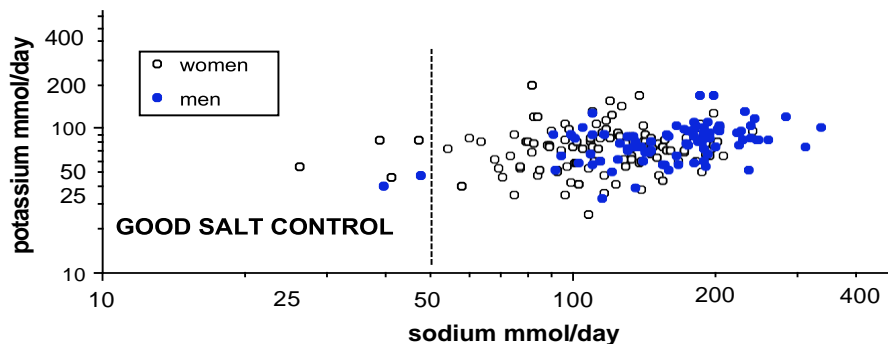
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The 50 mmol boundary

The 'normal' diet of industrial societies provides a very wide range of sodium excretion, from about 20 mmol/day to 400 mmol/day, and these Hobart survey results (n=194) are typical. The wide variation is due to the varied sodium content of industrially processed foods—from about 5 mg/100g to 9000 mg/100g—and the fact that shoppers ignore the sodium content.



The outward appearance of good salt control by six people was accidental and ephemeral, as each person has urine results that vary over a wide range from one day to the next, except when all foods are consistently selected for low sodium content.

THREE WAYS YOUR SECRETARY CAN ORDER **Salt Matters (reference 3)**

RETAIL: Off the shelf or by order from any bookshop (RRP \$24.95).

QUICK MAIL ORDER: Swinburne University Bookshop in Melbourne will post mail order copies on the same day by Express Parcel Post (next day delivery to central city postcodes) for AUD \$32.00 (RRP plus postage and handling). A telephone order to (03) 9214 5484 will verify that they will post it from stock that day and save you sending credit card details by email, otherwise the email address is HKoelmeyer@grouppwise.swin.edu.au and the postal address is Prahran Campus, 160 High Street, Prahran, VIC 3181.

ALTERNATE MAIL ORDER: <https://www.lowsodiumfoods.com.au/> (the online low salt food specialists), have *Salt Matters: The Killer Condiment* (2007 edition) available for \$24.95 plus delivery charges (delivery charges are calculated at the checkout)

But are low-sodium diets necessary " or even safe " for everyone? Read on to learn more about salt and how much of it we should be eating, based on the best current evidence. Disclaimer: Most health authorities currently recommend limiting salt intake. However, it is not clear if the evidence applies equally to most individuals. "A better educated and less accepting public has become disillusion with the experts in general and increasingly skeptical about science and empirically based knowledge," they said. "The high standing of professionals, including doctors, has been eroded as a consequence." Rather than resisting or criticizing this trend, increasing numbers of Australian doctors, particularly younger ones, are forming group practices with alternative therapists or taking courses themselves, particularly in acupuncture and herbalism. According to the Australian Journal of Public Health, 18% of patients visiting alternative therapists do so because they suffer from musculo-skeletal complaints; 12% suffer from digestive problems, which is only 1% more than those suffering from emotional problems. The health of the community depends on a large number of people other than medical practitioners and nurses. These can be grouped under the heading of allied health professionals. They include the following: Prosthetists and orthotists provide care for anyone who needs an artificial limb, (a prosthesis), or a device to support or control part of the body (an orthosis). They also advise on rehabilitation " helping patients return to normal life and work after treatment. Prosthetists provide artificial replacements for patients who have had an amputation or were born without a limb. Look at A, B, C and D opposite to help you. 8.2. Which allied health professionals could best help the following people? Look at A, B, C, and D opposite to help you. 1. Low intake of foods containing fibre " foods that are high in dietary fibre , particularly soluble fibre, can reduce the amount of LDL cholesterol in your blood. Include fibre-containing foods in your diet by choosing vegetables, fruits, wholegrains, nuts and seeds every day. Cholesterol in food (dietary cholesterol) " this has only a small effect on LDL (bad) cholesterol -saturated fats and trans-fats in food have a much greater effect. Following a healthy, balanced diet that is low in saturated fats and trans-fats can help to lower your cholesterol. Aim to replace foods that contain unhealthy, saturated and trans-fats with foods that contain healthy fats. Unhealthy fats. Before examining the patient doctor Ivanov washed his hands, put on his white gown and only then entered the room where the patient was lying. The doctor asked the patient: "How are you feeling today? Do you feel any pain in the chest?" The doctor was eager to know if the medicine, which the patient was taking, relieved the pain. This patient was recovering: he felt better and was cheerful. He thanked the doctor for his kind attention and care. As the condition of the recovering patient was rather good the doctor advised him to be out in the open air as much as possible, to start morning exercises again, to have rubdowns and by and by begin going in for sports. George saw that doctor Ivanov dealt with every case carefully and attentively and tried to calm those who were excited.