2001 article by Schwartz and colleagues[9] found no association between tibia lead levels and test scores.

With regard to Seeber and Meyer-Baron's statements that "*the repeated information on cross-sectional studies should also be accepted as source for conclusions on (neurobehavioural) effects due to exposures*" and that "*meta-analyses are one approach to search such summarising information*", after having reviewed the results of five meta-analyses on the subject (two presented in the recent article by Seeber and colleagues,[10] our paper,[1] and the two additional re-analyses discussed here), we found five different sets of results with no evidence of consistency to qualify these results as "repeated". Therefore, we have to adhere to our original conclusions.

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Ambient neighbourhood noise and children's mental health

Readers may be interested to know that there are other recent studies that have provided equivocal evidence concerning the effects of environmental noise on children's mental health that have not been cited in the article by Lercher *et al*, published in the June 2002 issue of *Occupational and Environmental Medicine*.[1] These new results need to be considered in the light of fact there has not been clear research evidence to support or dispute whether noise exposure in linked to mental health problems in children.

We have found inconsistent mental health results in our three recent studies examining the impact of aircraft noise on child health around Heathrow airport.[2–4] In the West London Schools Study,[4] aircraft noise was weakly associated with hyperactivity and psychological morbidity as measured by the Strengths and Difficulties Questionnaire (SDQ[5]) completed by parents.

The SDQ is one of the most widely used psychometrically valid instruments to detect psychological morbidity in children in both the UK and internationally. However, in our other two studies using both the parent completed SDQ, the teacher completed Student Behaviour Checklist, and child self reported Depression (Child Depression Inventory, CDI) and Anxiety (Revised Child Manifest Anxiety Scale) we did not find any association between mental ill health and aircraft noise exposure.[2 3]

The Austrian results should be placed within the context of existing studies with respect to two points: (1) the construct being measured in the Austrian study; and (2) the small effect size and inconsistency with previous research.

In the Heathrow studies we used internationally recognised child mental health screening tools, that have equivalent psychometric properties to the KINDL (only used in German speaking countries). It is worth noting that the KINDL is normally defined as a "valid and reliable index of quality of life",[6] rather than a sensitive screening tool to detect specific mental health problems. It is possible that the mental health results reported by Lercher and colleagues are tapping into impaired quality of life and wellbeing, rather than a precise mental health outcome such as "depression". The definition of "mental health" used by the authors needs to be clarified. The fact that the Austrian results do not replicate our Heathrow results raises the question: Does the KINDL measure wellbeing and quality of life rather than mental health? Furthermore, teacher reports of classroom adjustment would not normally be classified as a "mental health". Perhaps it might be more accurate to conclude from the Austrian research that: "ambient levels of noise in the community are associated with decreased quality of life and poorer classroom behaviour (rather than 'mental health') in elementary school children".

In summary, we feel that new research is necessary to provide further evidence about the effects of noise on child mental health. Even though Lercher and colleagues have taken the field of research forward with their two stage study design strategy, there is still more work to be done to clarify the terminology and measurement of mental health in the field of non-auditory health effects of noise. Specifically, a clear definitional and operational distinction needs to be made between stress/wellbeing/quality of life and mental health.

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No change in sex ratio in Ramsar (north of Iran) with high background of radiation

A few areas of the world show high levels of natural radiation, and one of these areas is located in Iran. Ramsar is a northern coastal town situated in the Caspian littoral (in Mazandaran province, Iran) on the slopes of the Alborz mountain range, and surrounded by forests. It is situated at 49° 40′ eastern longitude and 36° 53′ northern latitude. The area is rich with mineral springs. Investigations into the amount of radium-226 in water started more than 30 years ago.[1] It has been reported that inhabitants of Ramsar receive an annual radiation absorbed dose from background radiation that is up to 260 mSv, substantially higher than the 20 mSv that is permitted for radiation workers.[2]

Annual births subdivided by gender, were obtained from Statistical Center of Mazandaran province. Because of the relatively small number of annual births in the urban area of Ramsar (currently about 670 per annum), analysis was carried out on the 11 year total for male and female live births, for the period 20 March 1989 to 19 March 2001, equal to Iranian calendar 1368 to 1379 Hejirae Shamsi (HS). The data was not available for the 1378 HS (equal to 20 March 1999 to 19 March 2000).

To test the null hypothesis that the probability of a male live birth in Ramsar is equal to that in the control populations, a χ^2 test was conducted. A value of $p < 0.05$ was considered significant. The sex ratio is expressed as the proportion of total live births that were males.

The sex ratios at birth in the urban area of Tonekabon, the nearest city to Ramsar (about 20 km distance) and the urban areas of Mazandaran province (excluding Ramsar) were used as controls. The overall sex ratios in Ramsar, Tonekabon, and the urban areas of Mazandaran province were 0.511 (total live births = 7591), 0.517 (total live births = 14 266), and 0.509 (total live births = 253 918), respectively. There was no significant difference between Ramsar and either Tonekabon ($\chi^2 = 0.95$, df = 1, $p = 0.33$) or urban areas of Mazandaran province ($\chi^2 = 0.13$, df = 1, $p = 0.71$).

It has been reported that the sex ratio in the offspring of male radiologists is significantly lower than that in control populations.[3] However, this is not consistent with the present result. This discrepancy could be attributed to the exposure of both parents to ionising radiation. Alternatively, because the inhabitants of Ramsar have lived for many generations in an area of high background radiation,

some kind of adaptation might have occurred. This study was supported by Shiraz University

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William Harvey and air pollution

Thomas Parr died, on 14 November 1635, at what was recorded as the advanced age of 152 years and 9 months. A postmortem examination was performed and a record made by William Harvey. A translation by Alan Muirhead of Harvey's account is included in the Everyman edition of De Motu Cordis.[1] Parr seemed remarkably well preserved, and when considering the cause of death, Harvey identified air pollution as a possible contributory factor. His words are worth reading:

> "It was consistent to attribute the cause of death to the sudden adoption of a mode of living unnatural to him. [Parr had been brought to London not long before he died by Lord Arundel.] Especially did he suffer harm from the change of air, for all his life he had enjoyed absolutely clean, rarefied, coolish, and circulating air, and therefore his diaphragm and lungs could be inflated and deflated and refreshed more freely. But life in London in particular lacks this advantage—the more so because it is full of the filth of men, animals, sewers, and other forms of squalor, in addition to which there is the not inconsiderable grime from the smoke of sulphurous coal constantly used as fuel for fires. The air in London therefore is always heavy, and in autumn particularly so, especially to a man coming from the sunny and healthy districts of Shropshire, and it could not but be particularly harmful to one who was now an enfeebled old man."

Harvey went on to point to the possible adverse effects of changing from a simple diet to a rich one. Harvey's observation on the possible effects of air pollution are interesting in that they antedate Evelyn's much better known analysis by 26 years. In retrospect we can see that Harvey identified the effects of short term exposure to high levels of air pollution on a vulnerable person.

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Alternative methods of administering amyl nitrite to victims of cyanide poisoning

The traditional method of administering amyl nitrite to a victim of cyanide poisoning, is to break an ampoule in a handkerchief and then intermittently hold this under the victim's nose.[1 2]

I would like to suggest two alternative methods for administering amyl nitrite. The first method is to use a nebuliser. The second method is to use an inhaler similar to the Penthrox device, normally used to administer methoxyflurane for emergency analgesia.

With appropriate training, either method could be used by first aid staff. This could be of particular value to remote mine sites where the absence of medical staff may preclude intravenous administration of cyanide antidotes such as dicobalt edetate, sodium thiosulphate, sodium nitrite, or hydroxocobalamin.

Both methods offer the following advantages over the traditional method:

- Oxygen can be administered during treatment
- Rapid delivery of the drug
- Accurate dose delivery
- Less risk of inhalation by first aid or medical staff
- Less risk of injury due to glass fragments.

The inhaler device would also be particularly well suited to the treatment of large numbers of victims following industrial disaster or terrorist attack—the risk of which has been recently alluded to.[3]

One concern about introducing these methods is the potential for amyl nitrite toxicity. Experimental research is recommended to determine safe dosages and frequencies for each method.

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BOOK REVIEWS

Basic Statistics and Epidemiology, A Practical Guide

Antony Stewart (pp 151; £19.95) 2002. Oxford: Radcliffe Medical Press. ISBN 1 85775 589 8

This book is "aimed at people who want to understand the main points, with minimum fuss"—no small task when the subject at hand is statistics! However, this book manages it by using short, concise, easy to read chapters that contain simple examples and a minimum of mathematics. The style is suitable both as a text to read from start to finish and as a reference book. It introduces students to the basic terms and concepts in statistics and epidemiology and provides a very basic "walk through" of some simple formulae.

The book is loosely divided into two parts. It begins with a brief description of what are *statistics*, their role in the study of *populations*, and ways in which *samples* can be drawn from populations in order to make statements about individuals in the population. Concepts such as probability, significance testing, and standard errors are introduced and explained before a very brief mention of some simple statistical tests. In these later chapters insufficient information is provided to allow the reader to understand the mechanisms of these tests, or the conditions required for their application. However, useful references are given where the reader may find further detail.

In the second "half" of the book the author covers basic epidemiological concepts, describing the difference between prevalence and incidence, and how to measure disease frequency, and discussing bias and confounding. Later chapters in this section introduce basic study designs such as cohort, case-control, and randomised clinical trial (or RCT), and describe the planning and use of questionnaires.

The book provides a useful glossary of terms, including mathematical symbols and a number of statistical tables. A set of exercises is given and answers are provided. These are an invaluable addition to the book.

For the non-mathematical health student faced with the daunting prospect of having to begin studying statistics, this 150 page book is an excellent primer. It introduces basic terms and concepts and gets the student started. However, statistical concepts can be difficult to understand, and in some chapters in this book the brief introduction given falls short of helping the student understand the concepts properly. Therefore the interested student may see this book as a first introductory text, shortly to be followed or indeed accompanied by a more full statistical or epidemiological textbook. For this purpose an excellent, current bibliography is provided.

R Atkinson

Occupational Disorders of the Lung: Recognition, Management and Prevention

David J Hendrick, P Sherwood Burge, William S Beckett, Andrew Churg (pp 638; £99.99) 2002. London: WB Saunders. ISBN 0 7020 2507 0

The authors of this book aim to draw attention to "the changing nature of the contribution the occupational environment makes to lung disease, and to the particular difficulties this poses for those who find themselves responsible for patient care or the management of relevant industries". The result is a book which is easy to read, helped greatly by use of a standard format for each chapter. The format includes management of both the individual and the workforce, and prevention. The authors have also used difficult or "grey" cases, similar to one other textbook in the field. The difference here is