

In July 1993, 19 members of the south east Thames faculty of the Royal College of General Practitioners gathered at Bore Place, in Kent, to consider how best to encourage ordinary general practitioners to carry out research. Some members favoured highly structured research projects; others were fired by serendipity and the observations of everyday practice. Someone said, "Why do old men have big ears?" Some members thought that this was obviously true—indeed some old men have very big ears—but others doubted it, and so we set out to answer the question "As you get older do your ears get bigger?"

**Methods and results:** Four ordinary general practitioners agreed to ask patients attending for routine surgery consultations for permission to measure the size of their ears, with an explanation of the idea behind the project. The aim was to ask consecutive patients aged 30 or over, of either sex, and of any racial group. Inevitably it was sometimes not appropriate—for example, after a bereavement or important diagnosis—to make what could have seemed so frivolous a request, and sometimes (such as when a surgery was running late) patients were not recruited. The length of the left external ear was measured from the top to the lowest part with a transparent ruler; the result (in millimetres), together with the patient's age, was recorded. No patients refused to participate, and all the researchers were surprised by how interested (if amused) patients were by the project.

The data were then entered on to a computer and analysed with Epi-Info; the relation between length of ear and the patient's age was examined by calculating a regression equation.

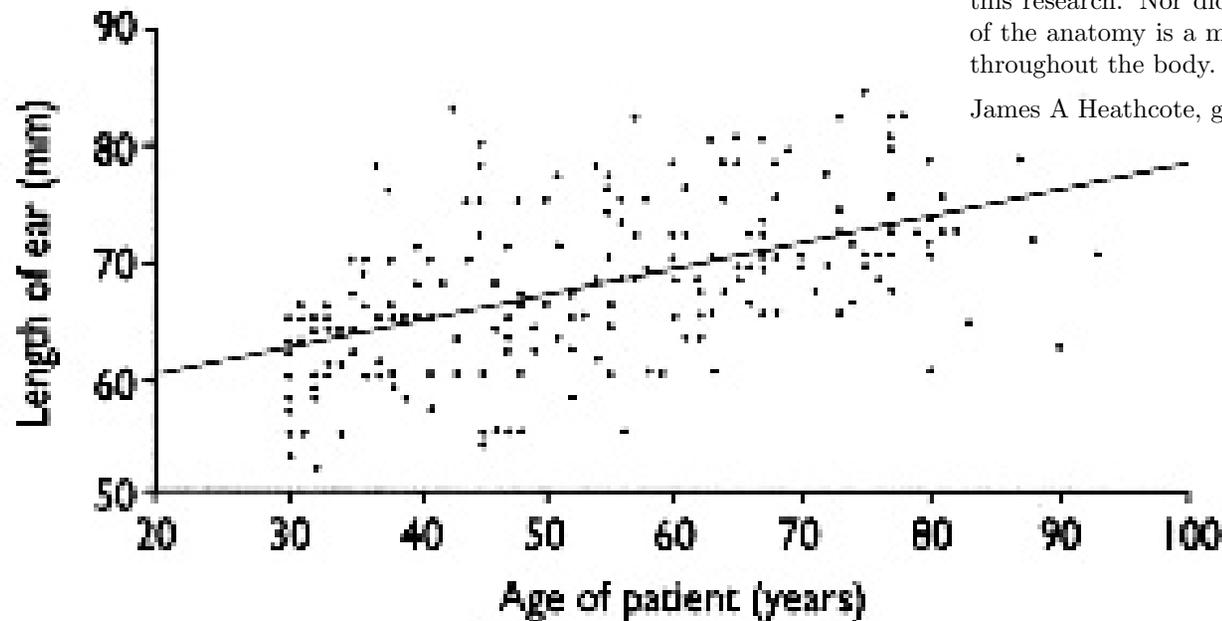
In all, 206 patients were studied (mean age 53.75 (range 30-93; median age 53) years). The mean ear length was 675 mm (range 520-840 mm), and the linear regression equation was: ear length = 55.9 + (0.22 × patient's age) (95% confidence intervals for B co-efficient 0.17 to 0.27). The figure shows a scatter plot of the relation between length of ear and age.

It seems therefore that as we get older our ears get bigger (on average by 0.22 mm a year).

**Comment:** A literature search on Medline by the library at the Royal College of General Practitioners that looked for combinations of ears, external, size and growth, males, and aging produced no references.

A chance observation—that older people have bigger ears—was at first controversial but has been shown to be true. For the researchers the experience of involving patients in business beyond their presenting symptoms proved to be a positive one, and it was rewarding to find a clear result. Why ears should get bigger when the rest of the body stops growing is not answered by this research. Nor did we consider whether this change in a particular part of the anatomy is a marker of something less easily measurable elsewhere or throughout the body.

James A Heathcote, general practitioner;



Editorial:BMJ 1995; 311:1715 **Prominent ears: a European perspective**

Otoplasty is popular in the United Kingdom to relieve the teasing that prominent ears provoke. “Bat ears,” “wing nut,” and “Dumbo” are common in the English vernacular. In China, physiognomists consider that prominent ears indicate the need “to draw on inner reserves of strength and ability,”<sup>1</sup> and Hindus find them desirable because of the elephant god Ganesha. Wondering what other Europeans think about prominent ears and whether it is reflected in their languages, we asked colleagues and patients who spoke languages other than English. The results are shown in the table. The English seem unique in evoking comparison with bats: animals with a sophisticated auditory system and an unjust reputation. It is uncertain when this term first entered usage, but zoologists use it for *Otocyon megalotis* (the “bat eared” fox).

Language	Lay term	Literal translation
Austrian German	Teekanne	Teapot ears
Dutch	Flapoor	Flapping ears
French	L'oreille decollée L'oreille en feuille de chou	Ears that take off Cabbage leaf ears
Gaelic (Ireland)	None	
German	Segelohren	Sail ears
Hungarian	Szamarfulu	Donkey ears
Italian	Orrecchie a sventola	Fan-like ears
Norwegian	Flyveorer	Flying ears
Polish	Swinskie ucho	Pigs' ears
Portuguese	Orechas espetadas	Spatchcocked ears
Romanian	Urechie clapauge	Floppy ears
Russian	JIoIIoyxhh	Burdock ears
Spanish	Orejas en asa Orejas soplillo	Cup handle ears Windy ears
Turkish	Yellken kulak	Sail ears
Kepge kulak	Ladle ears	
Welsh	None	

Many languages identify the potential aerodynamic effects of ear prominence, and others prefer the metaphor of the tea service. Russians recall the unusual shape of burdock, the French that of the cabbage. Other languages compare with animals' ears: donkey ears in Hungarian and pigs' ears in Polish.

We were unable to find any terms in Ireland or Wales. This may reflect the high prevalence of prominent ears in these countries or the kind nature of the Celts. [J Hamish, E Laing]

References: Young L.The ear. In: Secrets of the face: love, fortune, personality revealed the siang mien way. London: Hodder and Stoughton,1983:156.

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The measurements for the mean length of an ear seems to be inflated by a factor of ten, i.e. 675 mm ears sound like elephant ears. [Frank Wilk, Accountant]

Frank Wilk is of course right. Perhaps all papers should be submitted to the scrutiny of an accountant before publication? [James A Heathcote]

**Prominent ears: a Celtic perspective**

EDITOR,It seems improbable that a highly developed and richly expressive language such as Welsh should not have terms for bat ears, as suggested by J Hamish E Laing and David Gault.<sup>1</sup> Like the authors, I have no data on the prevalence of prominent ears in Wales, but in Welsh the word *clustiog* means large eared or long eared (like the handle(s) of a jug). All the other Celtic languages have similar words denoting big eared:

Breton      Cornish      Gaelic      Irish      Manx  
*skouarnek*   *scovarnak*   *cluasach*   *cluasach*   *cleayshag*

Welsh also has the following compound terms:

*clusthir* (*clustir*)   *clustlaes*   *clustlipa*  
 long eared            flap eared    flap eared

Incidentally, all these Welsh terms have been in use since at least the 14th or 15th century. [William Linnard]

**The Chinese believe that long ears predict longevity**

EDITOR,Readers may be interested to know that in the Chinese art of physiognomy one longstanding belief is that long ears predict longevity. There are several possible interpretations of the observed (cross sectional) positive correlation between age and ear size in James A Heathcote's study.<sup>1</sup> Heathcote suggests that as we get older our ears get bigger. Another interpretation may be that big ears predict survival: men with smaller ears may die selectively at younger ages. Ear size or pattern, or both, may be a marker of some biological process related to health. Several reports have related the diagonal earlobe crease to coronary heart disease and all cause mortality.<sup>2 3</sup> Petrakis noted the diagonal earlobe crease in statues of Emperor Hadrian and postulated that he may have had coronary heart disease and congestive heart failure.<sup>4</sup> However, I don't think that I would go as far as my grandmother (one of the last generation of Chinese women with bound feet), whom I remember admonishing me in early childhood to stretch my ears daily to ensure long life. [K-T Khaw]

References 1. Heathcote. 2. Lichstein E et al.. Diagonal ear lobe crease: prevalence and implications as a coronary risk factor. *NEJM*1974; 290:6156. 3. Elliott WJ et al..Increased all-cause and cardiac morbidity and mortality associated with the diagonal earlobe crease: a prospective cohort study. *Am J Med*1991; 91:24754. 4. Petrakis NL.Diagonal earlobe creases, type A behavior, and the death of Emperor Hadrian.*West J Med*1980; 132:8791.

### and that thick ears signify greater wealth

EDITOR, James A Heathcote's cross sectional study of 206 patients, in which he measured the length of the subjects' ears, leads him to conclude that older men have larger ears.<sup>1</sup> This observation may confirm ancient beliefs. In particular, it is believed in Chinese culture (and also evident in Chinese literature and traditional grandmothers' tales) that studying a person's facial features may reveal a vast amount of information regarding that person's personality and may yield forecasts of prosperity, longevity, and mishaps. In this respect it is believed to be important to study the features of the forehead, eyebrows, eyes, nose, ears, lips, and teeth closely together to give an accurate forecast of the person's destiny.

The ear, in particular, is believed to predict one's prosperity and longevity. Unlike in Heathcote's study, in which the whole length of the ear was measured, the ancient Chinese believed that each part of the ear represented a different prospect. For example, the length of the earlobe denotes long life, and thickness means greater wealth. It is also said that the longer the ears the more noble the person will be. For example, kings and emperors of old China are all said to have had extremely long ears (as does the statue of Buddha). The founder of the minor Han dynasty in AD 221, Liu Bei, is also said to have had ears reaching to his shoulders and could see his ears by glancing back over his shoulders.<sup>2</sup>

Heathcote's study has confirmed the fascination of the Chinese art of studying facial features. One important point is that the individual facial features studied are unique (and should not be studied after artificial alteration for example, some African tribes are unlikely to have long lives just because their earlobes have been artificially lengthened by the wearing of heavy metal earrings). Prospective studies are indicated to confirm the causal association between longevity and big ears.

References 1. Heathcote JA. Why do old men have big ears? BMJ 1995; 311:1668. (23-30 December.) 2. Lee SM. The Chinese art of studying the head, face and hands. 3rd ed. Petaling Jaya, Malaysia: Pelanduk Publications, 1995. [Pick-Ngor Woo, Peck-Lin Lip]

### Correlation of ear length with age in Japan

EDITOR, James A Heathcote's cross sectional study is a good example of studies that primary care physicians can carry out to answer questions that the literature does not resolve.<sup>1</sup> The study showed a positive relation between age and ear length, but several problems should be addressed. How large is the correlation coefficient? Do taller people have longer ears? Do elderly people of other races also have longer ears? Pelz and Stein measured external ear length and width in 1271 children and adolescents and reported that ear

length increases steadily and annually but that ear width is independent of age.<sup>2</sup> This interesting discrepancy may be recognised in adults.

We conducted a study at four primary care clinics in Japan. Age, sex, height, and left ear length were measured in 400 consecutive Japanese patients aged 20 and older. The mean age was 65.2 (range 21-94) years, and the mean ear length was 70.1 (range 50-87) mm. The linear regression equation between age and ear length was: ear length = 61.8 + (0.13 x age) (95% confidence interval for the regression coefficient 0.09 to 0.17), and the correlation coefficient was 0.30 (0.21 to 0.39). The linear regression equation between height and ear length was: ear length (mm) = 51.2 + (0.12 x height (cm)) (95% confidence interval for regression coefficient 0.07 to 0.18), and the correlation coefficient was 0.21 (0.11 to 0.32). Because ear length was positively correlated with height we divided ear length by height. The linear regression equation between age and ear length divided by height was: ear length/height = 0.034 + (0.00019 x age) (95% confidence interval for the regression coefficient 0.00016 to 0.00021), and the correlation coefficient was 0.60 (0.53 to 0.66), which was greater than the correlation coefficient between age and ear length (fig 1).

We conclude that ear length correlates significantly with age, as Heathcote showed, in Japanese people and that ear length corrected for height shows greater correlation with age.

References 1. Heathcote JA. Why do old men have big ears? BMJ 1995; 311:1668. (23-30 December.) 2. Pelz L, Stein B. Zur klinischen Beurteilung der Ohrgrösse bei Kindern und Jugendlichen. Padiatrie und Grenzgebiete 1990; 29:229-35.

Yasuhiro Asai, Manabu Yoshimura, Naoki Nago, Takashi Yamada

### Lifelong follow up study of young people is needed

EDITOR, James A Heathcote reports a correlation between ear length and age in a sample of adult patients, but can he substantiate his conclusion that as we get older our ears get bigger?<sup>1</sup> An alternative (and much more intriguing) interpretation of the findings is that a secular trend towards smaller ears has occurred during most of the present century. Have the senior citizens in the sample had big ears all their adult lives, and will the younger members keep their smaller ones? If so, what environmental factors, presumably operating during childhood or adolescence, might have been responsible? I wonder whether there has been a steady decline in the boxing or scrubbing of children's ears, or whether big ears are simply another result of passive smoking. This interpretative doubt seems to call for extended pinnametric research by Heathcote and his successors: the question can be resolved only by a lifelong follow up study of a cohort of young patients. [R M Hardisty]