

EWING FOUNDATION

CHARITY REGISTRATION No 226746

BODY WORN OR EAR LEVEL F.M ???

Most would agree on the cosmetic advantages of ear level f.m receivers over body worn devices. Cosmetic effect can be very important, especially for older pupils, so why do we even consider fitting body worn f,m when ear level systems are available at marginally higher cost.

Some education authorities believe that due to the small size, an ear level receiver may be more easily lost, and less easily found than a body worn, and this is probably so. This factor is often considered when decisions are being made as to what type of system will be issued to a child. The risk of loss is likely to be greater with smaller children, less able children, or children who receive little supervision from a Teacher Of the Deaf or Teaching Assistant. Bearing these and other factors in mind, many authorities try to use body worn systems in primary education, and progress to ear level devices a short time before the child moves on to secondary level. This allows the child chance to adjust to the new system, and time for any problems or wrinkles to be sorted whilst they are still in a familiar environment. I understand that some authorities only use ear level devices whatever the age of the child. Fitting f.m of any description to babies and very young children is a subject of debate and thought at the present time.

Parent pressure may also have a bearing on an authority as to what type of f.m system it issues.

For Ear Level Devices.

Cosmetic appearance / discreet.

Minimal additional weight.

Usually easier to wear.

No belts or harnesses.

No connecting leads to the audio shoes to be pulled or snagged.

Opportunity to make adjustments to the FM. level for left and right hearing instruments individually.

For Body Worn Devices.

More than adequate clean operating range between the transmitter wearer and the child.

Simple visual means for the supervisor / parent to check the status of the with regard to:

Is it switched on

Is it on the correct frequency / channel

Is the transmitter muted

Is there sufficient battery power
Other indicators on some models

These advantages for body worn are more likely to be useful for systems in use where the pupil cannot, or has difficulty in reporting what he is hearing or faults occurring .

A vitally important consideration to be taken into account when deciding on whether to fit ear level or body worn F.M is the clean operating range. By clean operating range I refer to the distance that the hearing instrument user can move away from the teacher using the transmitter, whilst still receiving a good quality noise free signal, uninterrupted by breaks in transmission . The clean operating range will be influenced by the following factors:

- A.The output power of the transmitter [radio frequency energy not audio level].
- B.The radio frequency sensitivity of the system receiver.

The clean operating range may also be influenced by:

1. The type and construction of the building where the system is being used. Probably the best case scenario would be out on an open playing field, and the worst, inside a building constructed mainly from steel.
- 2.The frequency channel that the F.M system is operating on.
- 3.The presence of interfering radio signals.
4. Atmospheric conditions.
5. The type and model of the hearing instrument that is being used with the F.M system.
6. The radio frequency selectivity of the F.M system receiver.
7. The number of other F.M systems being used in close proximity.
8. The status of the F.M system battery or hearing instrument battery.
9. A faulty transmitter or receiver.

The degree of effect that one, or some combination of the above factors may have upon the clean operating range of the F.M equipment for a given child is notoriously difficult to predict, and this therefore re-inforces the need that the initial commissioning, and day to day management of a child's F.M system includes regular listening checks. These listening checks should be carried out, not just with the transmitter and receiver in close proximity to each other, but over the whole classroom or work area of which the system is intended to be used.

Degradation of the clean operating range can clearly be detrimental to the benefits that an F.M system might be expected to give. If an experienced, able

user suffers the effects of poor clean operating range it is likely that they might report the problems to the relevant person , and that that person could then act upon this. However, if the F.M user does not have the understanding or language to reliably report on the effects that they experience due to poor clean operating range, they will probably endure it without complaint, they may even think that this is what they are supposed to be hearing.

I believe that an explanation of number 5 above is needed:

From my own experiences I have found that some types of hearing aids and cochlear implants emit interference that can reduce the clean operating range of any F.M system being used with it, but I have noted that the effect that this interference has upon bodyworn F.M in combination those hearing instruments is rarely enough to raise an issue, whereas the effects upon ear level F.M devices is more likely to be marked.

Also from my experiences I believe that the effects of 1. 2. 3. 7. above, are more likely to create poorer listening conditions for users of ear level F.M devices than they would for users of a modern body worn device.

In conclusion I feel that the decision on whether to issue a child with body worn or ear level F. M should be taken carefully after informed consideration .

Ken Higgins January 10.