

WHAT IS LEV

Over recent years there have been increasing reports of the Health and Safety Executive carrying out inspections of dental laboratories. These have often found that their ventilation systems were below the minimum legal requirement and on occasions demanded improvements under threat of closure. The reason given is the inadequacy of *Local Exhaust Ventilation* (LEV).

Indications are that these inspections will not only continue but increase in number and rigour. This gives rise to the daunting prospect that while you struggle in good faith to comply with a host of regulations, you can, almost without warning, lose your livelihood on account of complicated regulatory requirements that you are perhaps only minimally aware of.

The DLJ has been in contact with the HSE, and whilst at present the HSE is not offering absolute clarity on the position for dental laboratories, we have been informed from local branches that if a lab was to be inspected and found not to have suitable extraction (as opposed to having extraction but not fully effective, but this is not certain) then the lab would be charged for the whole time the inspector is on the premises at the rate of £133 per hour as part of their rules changes to recoup costs incurred from visits where health and safety risks are found.

Therefore the DLJ has included the very latest information available regarding Local Exhaust Ventilation 'LEV' by asking:

What legal obligations do laboratory owners have in terms of the air quality in their labs?

What Is LEV?

How does LEV affect your lab?

What can you do about it?

What legal obligations do laboratory owners have in terms of the air quality in their labs?

Under the Health & Safety at Work Act 1974 (HSW Act), every employer has responsibilities to their employees, themselves and other people who may be

affected by how they carry out their work. The Control of Substances Hazardous to Health (COSHH) Regulations 2002 (adds specific requirements to the HSW Act.) These include assessing the degree of exposure to risks, devising and implementing adequate control measures, and checking and maintaining them. (Reg. 6 & 7) In any workplace where there is likely to be dust or fumes, the employer has a responsibility to make sure it is safe. As a first resort, they must assess working practices to see if they can completely eliminate exposure to dust and fumes. If not, they have to put in place effective measures to limit and measure the level of exposure. As well as checking and regularly reviewing these measures it is also essential to inform and train on the hazards and use of control measures. Local Exhaust Ventilation (LEV) regulations are a means of measuring the effectiveness of extraction. There appears to be no categorical obligation to use LEV in your lab if you can make a compelling case that there is a more appropriate 'control option'. In reality it appears that the HSE have decided that by default LEV is the appropriate option, and it is unlikely that a dental laboratory can claim any other viable 'control option' is in use.

We therefore need more information on:

WHAT IS LEV

LEV stands for *Local Exhaust Ventilation* and is also known as dust or fume extraction. The purpose is to help clean the air so that people don't breathe in harmful substances.



The definitive guide – “Controlling Airborne Contaminants at Work – A Guide to Local Exhaust Ventilation” is published by the Health and Safety Executive and covers the obligations of employers and the necessary equipment and checks to meet ones legal responsibilities under the Health and Safety at Work.

In all places of work where there is a likely to be an exposure to metal or ceramic dust or fumes:

Employers must ensure that thorough examination and testing of their ‘protective’* LEV is carried out every 14 months (unless otherwise stipulated

This testing must be carried out by a ‘competent’ person, as shown by them having appropriate Qualifications. These including those from BOHS, UKAS and CIBSE may be acceptable, with the BOHS “P601 Initial Appraisal and Thorough Examination and Testing” appearing to be the most directly relevant.

The person carrying out the thorough examination and test should provide a record, which needs to be kept by the employer for at least 5 years

This testing must ensure that the LEV equipment and processes are working in a way which minimises the level of exposure.

Employers must ensure that the equipment necessary for control is maintained ‘in an efficient state, in efficient working order, in good repair and in a clean condition’. (Reg 9)

Employers and employees should give the person carrying out the thorough examination and test all the co-operation needed for the work to be carried out correctly and fully.

Any defects should be put right as soon as possible or within a time laid down by the person who carries out the examination.

HOW DOES LEV AFFECT MY LAB

If you are an employer

Your use of LEV should be seen in the context of your legal responsibilities under the Health and Safety at Work etc Act 1974, the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended)¹ and the Management of Health and Safety at Work Regulations 1999 (MHSWR).² There are also special provisions for employers in Safety Data Sheets under REACH³

As a first resort and before applying LEV measures you should try to eradicate exposure to dust and fumes by measures such as:

- eliminating the source;
- substituting the material being used by something safer;
- reducing the size of the source;
- modifying the process to reduce the frequency or duration of emission
- reducing the number of employees involved with a process;
- applying simple controls, eg fitting lids to equipment.

Having done so, when applying LEV you need to find and act on information including the following:

- How much control will be required.
- What to tell the LEV supplier.
- performance checks, control effectiveness and reporting;
- the need for a user manual and logbook;
- the requirement for thorough examination and test of LEV
- the principles of how to discharge contaminated air safely and replace it with clean air;
- How contaminant clouds move with the surrounding air.
- The processes in the workplace which may be sources of airborne contaminants.
- capture zones, working zones and breathing zones;

Not knowing or understanding the regulations is no defence.

Bear in mind that if it ever went to a tribunal you may have to prove that you have taken all reasonable measures in achieving these goals.

If you are an employee (or self employed)

Employers have a responsibility to assess, measure and control the degree of exposure that their employees face. However, employees also have responsibilities as part of an LEV regime.

Employees must use these measures in the way they were intended and the way in which you have been instructed. You have a responsibility to report if anything is not working correctly and if you are to check the system you need to know:-

How to check that the LEV system is delivering its design performance and is effectively controlling emissions and exposure

The parts of an LEV system and their function.

How to recognise a damaged part from a visual inspection.

The purpose of, and how to use, the measuring and assessment instruments and techniques.

WHAT DOES THIS MEAN

In simple language this means that if you are an employer or supplier of extraction equipment, or testing services, you have responsibilities by law. As an employer you must assess the risk to your employees (or yourself if self employed) and if there is dust or fumes that are potentially hazardous to health you must control the risk.

Assuming that you decide that LEV is the appropriate 'control option', LEV must effectively ensure that all equipment used is fit for purpose, and that the LEV performs the function that it is designed for. Systems and equipment must by law, be tested not less than once every 14 months and more frequently in some cases.

It is your responsibility to make sure that anybody involved is "competent". This is a legal requirement and applies to whoever designs or selects control measures, checks, tests and maintains these measures and supplies goods and services to employers for health & safety purposes.

The testing of control measures must be by a "competent person" as shown by them having appropriate Qualifications. These may include those from BOHS, UKAS and CIBSE, with the BOHS "P601 Initial Appraisal and Thorough Examination and Testing" preferable.

By choosing the right supplier for your equipment and testing you can be sure that your system will work effectively and have complete peace of mind. You need to make sure that anybody supplying, installing and testing for you has the appropriate level of knowledge and suitable qualifications and experience of supplying LEV to dental laboratories.

You must also have a user manual and logbook for the system and training records for personnel together with a record of thorough examination and test of the LEV system. These must be kept for a period of 5 years.

1 *Control of substances hazardous to health (Fifth edition). The Control of Substances Hazardous to Health Regulations 2002 (as amended). Approved Code of Practice and guidance L5 (Fifth edition) HSE Books 2005 ISBN 978 0 7176 2981 7*

2 *Management of health and safety at work. Management of Health and Safety at Work Regulations 1999. Approved Code of Practice and guidance L21 (Second edition) HSE Books 2000 ISBN 978 0 7176 2488 1*

3 *Registration, Evaluation, Authorisation and restriction of Chemicals (REACH) www.hse.gov.uk/reach/index.htm*

For more information please see the practical LEV Factsheet on the backpage. It explains what to do to ensure you are compliant and the likely costs involved.



LEV Factsheet

My extraction system is not very old, do I need it tested?

Yes. The frequency of testing will depend on the processes you have but most systems need testing at least once in every period of 14 months. When it is fitted you need to have an initial test and a manual. The data from this test is used as a benchmark for future tests.

Who can I get to test my Extraction System?

Testing must be carried out by a "competent person" as shown by them having appropriate qualifications. The BOHS "P601 Initial Appraisal and thorough Examination and Testing" appears to be the most directly relevant but qualifications from BOHS, CIBSE¹ and UKAS², may be acceptable. Companies with a background in various industries may offer this service, but it is probably best to use somebody with experience within the dental industry.

I never received a manual with my system, where can I get one?

Remember, your system may have been supplied before these requirements existed. Your original supplier is probably the best starting point or discuss with the person doing your testing.

I am self-employed and work alone; do I need to have my extraction tested?

Yes, the responsibilities of the self-employed, with regard to LEV systems, are the same as for employers. Under the Health and Safety at Work etc Act 1974 (the HSW Act), every employer has health and safety duties to themselves, their employees, and other people who may be affected by the way they carry out their work ('conduct their undertaking').

I don't have any extraction fitted; I don't think I need it.

Under the Health and Safety at Work etc Act 1974 (the HSW Act), every employer has health and safety duties to themselves, their employees, and other people who may be affected by the way they carry out their work ('conduct their undertaking'). They must take measures to ensure that their workplace is safe and there are effective measures to exposure to airborne particles. LEV (extraction) is one option, and while other options are not specifically excluded, it may be difficult to justify them as adequate.

Can I test it myself?

It must be tested by a competent person who is suitably qualified as shown by them having the appropriate qualifications.

How much will it cost?

This will depend on the size of your laboratory, the type and age of the equipment.

As an indication, for small to medium sized laboratories it may need 1 day of an engineer's time to perform the testing and prepare the report. For a medium to large laboratory it may require 2 days. Producing the initial test and manual may take longer.

What happens if it fails?

You will need to carry out remedial work in a reasonable time-frame to ensure that the workplace is safe. It will depend on the test result what action needs to be taken.

Do I need to keep records?

The person carrying out the thorough examination and test should provide a record which needs to be kept for at least 5 years.

I fitted extraction but one of my employees doesn't use it.

Employers must assess the degree of exposure and the risks to their employees, devise and implement adequate control measures, and check and maintain them. Employees must use these control measures in the way they are intended to be used and as they have been instructed.

Where can I get further information?

A guide to Local Exhaust ventilation (LEV) called Controlling airborne contaminants at work is available from the Health and Safety Executive.

¹ Chartered Institution of Building Services Engineers
² United Kingdom Accreditation Service

Schottlander is a DLA affiliate member with BOHS P601 Certified "Competent Persons"

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