



GORDON SOMMERVILLE

RETIRED STONEMASON | SILICOSIS PATIENT

We are aware that you worked in the construction industry throughout your career.

Can you start by telling us a bit about your background and experience with dust exposure?

I first started working in the construction industry since leaving school in 1976, where I became a stonemason and builder to trade. I attended Telford College in Edinburgh where I gained qualifications in Masonry and Advanced Craft Masonry (awarded The Faulds Prize), City & Guilds 600 (awarded Licentiate of the City and Guilds of London) and The National Progression Award in the conservation of masonry.

During my career I worked on many masonry projects, both large and small. My job involved everything from stone carving and restoration to structural alteration works and demolition to new build projects. I worked for several large companies up until the early 1990's when I became self-employed. From then on, I ran a small masonry company. No matter what type of work I was carrying out or who I was working for, daily dust was involved, lots of it. I did not realise dust was making me ill but during my career there were little clues which should have raised a red flag.

In the early 90's, I was required to have my dust-blocked sinuses scraped out. This was the first time I was informed abnormalities had

showed up in my lung x-rays. In 2000, I required operations for Carpal and Cubital Tunnel syndrome, and I was diagnosed with 'white finger', also known as Hand Vibration Syndrome.

My neck had also degenerated by this time and my breathing had become a bit more laboured. I still felt reasonably fit. However, this changed in 2013, over a very short period of time, a few weeks max.

I will never forget this day; May Day Bank Holiday 2014. I collapsed on the scaffold at work and had to be driven home. The next day I could not move, I just lay in bed too ill to worry about anything. From that day onwards I could barely get out of bed, even getting up for the toilet was a chore and I started sweating so profusely during the night that I had to sleep on beach towels.

From then on, it was constant testing and x-rays. In the March 2015, an ultrasound scan showed fluid on my left lung and in the June, I was rushed into intensive care and ended up in the care of the Respiratory Medicine Unit. After a rib resection, lung and rib biopsy, lung lavage and spending a week with a tube in my lung which was attached to a pump it was decided by the respiratory doctors, in their opinion, that the appropriate diagnosis was a reactive pleural effusion induced by previous asbestos exposure, widespread pleural adhesions consistent with previous silica exposure, along with mediastinal nodules in both lungs.

But this was the least of my worries, as there was no improvement, and I was getting sicker. After several more scans, blood tests and further biopsies, the true extent of the damage years of dust exposure had caused inside my body became clear. I was now suffering from systemic diseases and the dust was in my bloodstream.

After ending up in the renal ward in the bed next to my workmate of 15 years who had exactly the same conditions – two funerals and a phone call later – we found out that many of us were suffering from rare diseases, which is common in dusty trades.

As for myself, this was just the starting point. Over the following years, high doses of very nasty drugs were administered by various means and the list of diagnosed illnesses continued to get longer.

Whilst you were working within the construction industry, what was the attitude and approach to general workplace health and safety at that time?

For example, were you made aware of the dangers of dust, particularly silica dust, compared to other workplace H&S dangers?

When I was attending college we asked about the dangers of dust, namely silicosis, and were confidently informed that if we worked outside, we had nothing to worry about as the air current would blow the dust away. In the 80's and early 90's, dust was only considered a nuisance and next to no one wore a respirator.

In the early 80's I worked for a large company which had many subsidiaries all based in the same industrial unit. The company had its own masonry division. The yard, had incredibly



limited facilities. The canteen and toilets were basic to say the least, the toilets were sheds, there was a portacabin with a leaky roof where you could spend your breaktime, a sink with only cold water, an urn and a two-ring mini cooker. One of the apprentices might occasionally clean these facilities if they got a Saturday morning shift, then again, they might not.

This same company had an asbestos removal division, and the asbestos guys were supplied with top of the range full face respirators. They had decontamination units with showers and bagging facilities for their overalls. Even back then companies were aware of the dangers of asbestos, but dust, such as silica, was still classed as merely a nuisance.

In the mid to late 80s, I worked for a very large and well-known company who were highly regarded for their safety policies, which were actually quite advanced for the time. They actually took employee health very seriously, and for this reason they built a showpiece state of the art stone cutting shed. The shed had the latest local exhaust ventilation (LEV) system, air points for compressed air, 110 V outlets for power tools and even wall heaters.

We were informed that the exhaust system would keep us safe, so no masks were required, even though power tools were being used inside the shed more often.

The LEV system would be turned off at break times due to the noise as the toilets and canteen were on the other side of the wall. When we came back through half an hour later the dust on the floor would be an inch or so deep, the same when we arrived the next morning. All this dust was simply dry swept and thrown in the skip. As the years progressed questions on respiratory safety were raised by employees – needless to say, the subject of respiratory protection became taboo.

On site during this time, when carrying out stone replacements for instance, standard practice was that as soon as the scaffolding went up, the stones to be replaced were measured and the sizes were sent back to the yard in order for the blocks to be cut and surface finished, but this could take some time. This waiting time would be used by the squad working on the job to cut out the old stones which were to be replaced with maybe three or four men on each lift of the scaffold all sawing into walls without a thought of suppression. We could not see each other because of the dust, and no one was wearing a mask.

If there was a visit from a safety officer, they would be more interested in checking the scaffold was safe and that we were all wearing our hard hats and the compulsory 'bulletproof' hi-vis vest. Unfortunately for many of us, the hi-vis vest did not keep the dust out of our lungs.

If you could change anything about the approach and attitudes you, and others, had towards particulate safety, what would it be?

And what do you think is the single change that would make the biggest difference?

Like sheep we simply followed in the footsteps of the older generation; no one told us any different. The ability for rational thought was not considered an attribute in the novice. Until you were qualified, you were there to listen, learn how to make tea and follow instructions to the letter without comment or irritating suggestions. Health and safety was not on the instructional agenda.

For this reason, change for the better was slow to manifest within the building trade. These days through the use of more modern instructional techniques along with access to the internet leading to considerably more awareness, attitudes have greatly improved over the last few years.

So again, I think education on all dust-related matters is very important and should be a requirement for any employee on entering a dusty occupation. If I was in a position of authority, I would advocate for a national awareness campaign alerting everyone who has any connection with dust to all the dangers and associated diseases which go hand in hand with exposure to RCS.



Still to this day there is a severe lack of awareness of the dangers of dust and the many diseases it can cause, not only throughout the workforce but also within the medical profession.

For example, in my experience, many GP's have never heard of half the diseases dust can cause, never mind of their connection with dust exposure. Dust related diseases used to be considered long latency diseases, but with the introduction of power tools and composite materials into the construction industry this is no longer the case.

If young people entering a dusty occupation actually saw first-hand what will happen to them if they do not protect themselves and use suppression methods, they might think again and be more willing to comply with regulatory advice. There are guys out there succumbing to dusty diseases who are only in their twenties.

Ignorance is still the biggest killer.

What measures do you think work in dust reduction and what measures would you like to see introduced?

Difficult question. There are many different types of dusts, it is everywhere, and you can't suppress it all. Silicon dioxide itself is one of the most abundant substances found on the planet and it is dust. RCS is not a hazard that can be defined or quantified by sight, smell, taste or touch. Stone, for example, only becomes a respiratory hazard under certain circumstances, like size. You could quite safely sit on a one-ton block of quartz every day of your life and suffer no ill effects. However, the stone only becomes a respiratory hazard when the crystalline mineral

is fractured or abraded. This is an area where a monitor is advantageous.

This is why I believe education is a very important starting point when it comes to reducing dust. A basic understanding of particulate size, the fact that smaller particles are more problematic and how freshly fractured silica is more toxic than aged silica should at least be touched upon when educating the relevant workforces. If the workforce understands the danger, if they know what they are actually protecting themselves and others against and if they understand the reasons to comply with dust controls, then there is a much greater probability that they will at least attempt to reduce their dust production. Whereas if workers are oblivious of the type of hazard they are creating or the myriad of diseases associated with overexposure to dust, then you have lost the fabled 100% preventable disease battle before it has even started. The unaware cannot protect themselves from the unknown.

The common dust suppression methods presently in use have not really changed over the years. At the moment in fabrication and workshop type premises, LEV is the recommended gold standard, but as I mentioned previously it's far from full proof.

Water suppression is widely used, and water bottles are effective but messy. The downside is they produce a lot of slurry which if allowed to dry, turns to dust. Water does work well on table saws which have a sump, fogger's, misters, mist cannons and even hoses can be effective suppression tools, but again one of the major disadvantages to all of these is mess and slurry. Shrouds and hoovers can be effective for work such as concrete floor grinding and they do work well with drills, however they are

cumbersome.

Unfortunately, for masonry cutting purposes, these devices are not particularly practical, as the guard gets in the way. Nine times out of ten if masons or bricklayers actually take the time to set up and use the hoover, they remove the guard from the cutting device then get a labourer to point the vacuum hose towards the plume of dust, catching some of the wayward particulate but defeating the purpose as they are effectively overexposing everyone within the radius of a small town.

In recent literature, I read that academic experts' around the globe now suggest the only sure way to reduce overexposure to dust is not to make any. This seems a somewhat impractical proposal which one could argue has been proposed from overthinking the matter.

On the other hand, the use of power tools that produce dangerously high levels of dust should be drastically reduced.

It might perhaps even be advisable to make it mandatory to require a permit to use such equipment so that such plant was only used by trained personnel.

Yes, the implications of this would be the greatly increased knock-on labour costs when the equivalent manual production and output times were compared to mechanical methods.

But how much does disability and chronic illness cost? What is a life worth?

All dry cutting along with grinding without a shroud should definitely be made an offence.



When you worked in construction, were you aware of lung checks and workforce exposure limits? If so, how were these presented to you?

If there were exposure limits in place back then, nobody ever told us about them.

I had been running my own business for some years before I was enlightened to much of this now widely available information. Pre-internet, your access to regulatory information was rather limited, from places like Her Majesties Stationary Office (HMSO). Some literature from the shop was free but many subjects were contained in the format of rather expensive volumes. Firstly, though, you had to buy the Index to find out which volume, or volumes, contained the information you required. You could go to the library where much of the information required was usually kept; however, this was in the reference library so was not available to borrow.

Even when subcontracting on larger jobs where there would be an induction or frequent toolbox talks, the only subjects covered were general site safety and the wearing of hi-viz vests and similar.

I was only ever sent for one spirometry test, the reason for or why this test was being carried out was not discussed with anyone in advance. On the test day the van picked up a portion of the workforce and took us to a local medical practice where the nurse took our details then we blew into the tube for the doctor.

When we asked what this test was for, the company said new regulations stated they now had to test and keep a record of all employees who had worked for them for over three years. This would have been back in the early 90's just before I became self-employed, and if I recall

correctly, I had worked for the company for roughly three years or there about. I never saw the results of the test or have heard anything more about it since.

What would your reaction have been if you'd had an Air XS device on your site, telling you that you were exposed to excessive levels of RCS?

In my workshop experience it was always taken for granted that systems such as the LEV was protecting everyone from overexposure; the problem was that no one ever measured how much dust was actually in the air.

Therefore, such a measurement device in any enclosed environment such as a banker shed, stone cutting yard, foundry, dental prosthetics laboratory, etc. are perfect examples of where monitoring equipment could prevent so many illnesses, by simply providing real-time air quality information. Many workers, myself included, who previously worked in enclosed sheds, which at the time were considered to be safe, therefore no masks were required, are now either sick or dead.

Other instances where information from such a device would be invaluable to construction workers would be in tunnelling, sewer, conversion and structural alteration works to name but a few areas. In fact, I would suggest that any enclosed area where dust is created should be monitored and recorded by law.





What difference, if any, would this knowledge have made to your work life?

If I had been aware of the dangers of dust while also having continual air quality information at hand to back up any decisions on which safety provisions, suppression methods or respiratory protection I would require at any given moment in time, either on a project or in the workshop, I would not now be suffering from several degenerative and disabling incurable diseases.

The major cause of many occupational diseases is ignorance and a lack of awareness or basic information. I would consider not knowing how much dust is in the air at any given moment in time is a serious lack of very important information.

What is your life like now, and how much has silicosis affected you?

I was always a very fit and active person, walking everywhere, and was rarely found inside the house no matter the weather. But, if you let dust get anywhere into your body, it can cause all kinds of totally unexpected chaos. I can assure you, no one ever mentioned any of this to me. I'm often wheezing, which means that there are minor changes I have to make to my daily routine easier. Today, I am housebound and walking the two meters across the hall to the toilet at night can be extremely difficult at times.

Then there are the irksome little dizzy spells which come on completely out of the blue and I can blackout without warning anywhere, anytime. As someone who worked outside all his life, it was rather strange to suddenly develop an aversion to sunlight. There was a six-month period where I went totally deaf and practically blind.

But it is the pain that's worst of all, nobody mentioned pain. I have become a connoisseur of pain. Every day there is constant pain. Somewhere and sometimes everywhere. Anywhere. All over. Every day is painfully different. Erythromelalgia, otherwise known as 'Weir Mitchell Disease', is a neurological condition not many people have heard of. It is like a fire on the inside that you can not put out. An episode of Scleritis is relentless and can cause excruciating pain in my eyes, this also affects my face with a deep boring pain into the brain.

But the above are classed as mere discomforts rather than life threatening illnesses; the more serious dust induced inflammatory diseases are a more immediate threat. Dusty diseases do not usually come in ones as they are systemic diseases. If you only end up suffering from one, you can consider yourself lucky.

I know where I stand and what to expect from the systemic inflammation, and no doubt it plays its part in some of these little irksome distractions. The problem is the doctors from the various medical departments who look after me very well, tend to disagree on the most serious of the ailing griefs I have managed to accumulate.

There are lots of conditions no one ever mentioned were associated with exposure to crystalline silica dust. I was recently diagnosed with liver disease, dust caused inflammation in my brain, and my hands are practically useless at times. The doctors often don't know whether to label the condition Hand Arm Vibration Syndrome, Raynaud's disease, Mononeuritis multiplex, Peripheral Neuropathy

or just a combination of them all.

I find myself immunocompromised and I now have a limited ability to fight most infections, because of this, so am registered as 'High' on the shielding list. This has been worrying, especially in the winter months due to the recent COVID pandemic, knowing that either COVID, the flu or even catching a common cold could be serious.

These are just a few of the possible outcomes nobody ever warns you about when you are tearing into a lump of stone with your angle grinder and turbo blade without using suppression or wearing a mask.

All this I am told was 100% preventable, therefore I would suggest that the next time you intend to create a large cloud of dust, stop and think what you could do to limit your own exposure as well as exposing everyone around you, because there is no safe limit for dust exposure and no one is immune to dusty diseases, no matter what they tell you.



After your experience with silica and silicosis, what advice would you give to people working in these industries now, who may not take the dangers of particulates seriously enough?

When I first started working around dust, the main reason I did not wear respiratory protection was not as an act of bravado or rebellion. I never wore a mask because like most of my colleagues at that time, I was completely oblivious to the fact dust was dangerous.

Nobody warned us, there were no hazard signs telling us dust was dangerous. Masks were not offered by employers and the attitude of many at the time was that masks were only for wimps or that “I am fit, big and strong, a little bit of dust can’t harm me.”

Some of the most disturbing memories I have are those of meetings with the very same big, fit and strong ‘dust immune’ guys after 10 or 15 years of maskless exposure to dust.

I will never forget the day I was walking past a very frail looking individual sitting on a bench holding a pair of crutches, outside a hospital. He called out my name. I had no idea who this was, until I recognised the voice of my old tradesman. I was shocked to see him in this state, and it still disturbs me.

These very clever, highly skilled and talented old workers who I was privileged to know and call friends have died, and no matter which dusty disease or what cause was recorded on the death certificate, ultimately the cause of all cases was ignorance.

I also believed I was impervious to dust. I felt that I had a built in natural super immunity which would protect me from the effects of dust. Look what ‘thought’ did, though!

On a more positive note and from personal experience, my advice would be to:

- Use your common sense when it comes to working with any dust
- Assess the hazard
- Employ any practical methods available to eliminate or suppress as much dust as possible
- Always use top notch respiratory equipment when there is any dust present.
- Remove your overalls or work clothes before leaving site (do not take dust home with you)

If you follow these simple rules, then it can be possible to remain 100% dusty disease free, proving the statement ‘all dust related diseases are 100% preventable’ as true.





Finally, is there anything thing else you would like to share, that we haven't mentioned?

Recent technology has allowed science to make huge advances in the understanding of the hazards associated with nano sized particles. The piezoelectric properties of freshly fractured silica, different particle size outcomes in relation to inflammatory systemic diseases, dusts connection with the production of reactive oxygen species, the DNA altering effects, and much more has meant that scientists and researchers know and understand only too well the damage dust can cause on a cellular level once it enters the body.

These scientific breakthroughs, outstanding as they are, have not as yet produced a cure for the inflammatory effects of silica dust on the system. What many people do not realise is that once these tiny dust particles get into the system, the body's defensive cells cannot flush them back out, so they stay in for keeps causing a never-ending cycle of inflammation.

The only cure for dusty diseases at the moment is not to let dust get inside the body, which means in order for silica induced diseases to be classed as 100% preventable, awareness of the hazard throughout the exposed population is required.

This in turn would enable the newly enlightened workforce to use their recently acquired up to

date knowledge to keep dust out, thus preventing a very large percentage of future illness.

Unfortunately, most of this information is not generally available to the exposed workforce. The warnings should be in big red letters for all to read. These warnings should include all the diseases associated with exposure to silica dust, with the addition of the many diseases which tend to get ignored or are classed as rare, but are common within the dusty community.

Silicosis should be returned to the reportable diseases list along with the addition of all the other diseases known to be associated with dust. No one knows how many workers actually get sick in this country as figures for these diseases are only guesstimated and many are not even included.

Apart from making the population aware of all the dangers associated with dust and teaching the workforce how to safely suppress and control emissions, the only other options are to do as previously suggested and ban dust production completely or go down the lines of other countries and restrict all work that produces dust to trained licence holders.

I would suggest education is simpler.