



*Returning to Dental Practice:  
Realistic considerations, Practical solutions*

*An open letter to the profession, the governing bodies and our suppliers: May 5 2020*

**Executive Summary:**

- **Attached** is an open letter to the profession, governing bodies and suppliers, which presents an evidenced based approach to the safe re-establishment of face-to-face oral health care and dental treatment in the UK.
- **It is written** within the overriding importance and context of maintaining the Government's concerns for public health, reducing the R number and maintaining social distancing for as long as is necessary, to ensure public safety and stop the spread of Sars CoV-2, (COVID-19).
- **It is also written** with the over-riding concern to protect dental professionals and patients, whilst at the same time being able to provide much needed and overdue care to those patients.
- **Evidence presented supports** the fact that Sars CoV-2, is in the pharynx and lungs and as a result in saliva, water droplets and dental aerosols and that dental care providers and patients are potentially at risk of being exposed to it at dental appointments.
- **Logic and evidence presented** supports the notion that dental professionals will need to take extra precautions, before during and after a dental visit in order to ensure patient, dental professionals and the public's ongoing safety from the threat of spreading Sars CoV-2 (Appendix A).
- **These changes** will be necessary until such time as we have: an R number at or near 0, in office instant testing for antigen and antibodies, protective medication or a vaccine and more knowledge about the virulence of viruses in aerosols.
- **Evidence presented** and track record shows that the dental profession is well versed and proficient in providing infection control procedures and as such, can cope with the changes that will be necessary.
- **The viability of dental practices** sent back to work with strict limitations, such as only allowing the treatment of emergencies or doing examinations, will result in ongoing poor dental care, will not be financially viable and will result in many practices declaring bankruptcy. It will also result in the money the Government has spent on furloughed staff to have been a waste and the Government will need to realise the 80% -100% bank reimbursement, on defaulted CBILS and BBL loans.
- **Sending practices back** to work with added infection control procedures, but without treatment restrictions, (ie: without a phased approach), will allow practices to treat patients properly, will ease the logistical difficulties in setting up and running urgent dental care centres, will ease the financial burden and risk to the Government caused by practices declaring bankruptcy. This document recognises the unprecedented efforts that the British Dental Association has made to represent our concerns to the Government and governing bodies of our profession.
- **The profession needs a document** outlining the additional Infection control procedures and protocols the governing bodies agree upon. This document should cover all phases of the patient journey and differentiate AGPs from non AGPs as necessary. It should not however limit us to only doing certain procedures. In all cases though, patients considered to have symptoms of COVID-19 or known to have it, should be referred to Urgent Dental Centres, for the time being.
- **The help we need** to allow us to return to work safely is access to appropriate PPE, allowing for prioritisation of front line workers of course. We also need assurances from suppliers, that they will distribute PPE fairly, with rationing, if necessary, to all dental practices. Given the current shortage, the government may need to consider punitive fines for companies who do not distribute evenly and fairly.
- **Updates from the governing bodies**, when research and evidence dictates, as to if and when we can relax the "additional" infection and transmission control procedures.



We write this letter to the governing and decision-making dental bodies in Government and the profession and industry as a whole, as group of concerned practitioners. We write it within the context of being helpful both to our patients and the government, as we move forwards and begin to consider re-establishing face-to-face dental treatment in the UK. But how and to what degree are the big questions.

As the world begins to adapt to the catastrophic effects of the COVID-19 crisis, we as a profession need to plan for the return to the clinical practise of dentistry. We must make every effort to make sure it is safe for our patients, support staff and all dental professionals to return. We must do this without undermining the protection of the UK public and all of the Government's monumental efforts to date, to see us through this pandemic.

During this global pandemic, the profession was correctly asked to cease face to face treatment and institute the "three A's" approach of advice, analgesics and antibiotics. This was understandable and valid in the short-term 'lockdown scenario'.

We fear that the long-term implementation of this protocol, will lead to serious 'never' events where dental pain can result in life threatening illness. It is therefore important that we put protocols in place post lock-down, in order to prevent a backlog of odontogenic infections, which are less likely to respond to the repeated prescription of antibiotics.

In early 2020, a study was conducted during this pandemic by Guo et al on 2537 dental patients. They found that the proportion of dental and oral infections increased from 51.0% before the COVID-19 outbreak to 71.9% during COVID-19. There were 38% fewer patients attending for care at the beginning of the pandemic and thus, there is evidence to believe that in the post-COVID-19 era, people's demands for dental services may rise extremely fast. Anecdotally, during the AAA triage period, we are seeing the build-up of problems in our patients that continues to worsen. Although not serious enough to be dealt with by the urgent dental care centres, they will leave our patients with lasting issues that may never be resolved and affect the long-term health of their oral cavity and possibly general health. This will only get worse the longer practices remain closed.

The return to widespread dental care provision by all dental professionals, is of the utmost importance.

The UK has made tremendous movement in our battle against COVID-19 and we are now "past the peak", with new cases and deaths falling every day. While we are in the process of "flattening the curve" with the "R" number appearing to be below 1, this is the time to consider our re-entry into the workforce as key healthcare provision workers.

Our profession faces unique challenges, that puts our patients and us at the greatest risk of spreading or contracting the virus (Ge 2020). There is perhaps no other profession that generates as much aerosol from the oral cavity or gets as close to the oral cavity when doing so, than dentistry.

We know that coughing and sneezing (Bourouiba 2020), and even just tidal airflow when speaking, can generate aerosols (Wurie 2013, Sze To 2009, Xie 2007 Asadi 2019). We know that our dental drills, ultrasonic instruments and air/water syringe can add to these aerosols (Madden 1969, Grundy 1967). We know that these dentally created aerosols are mixtures of water from the drill or ultrasonic scaler, saliva, blood, pulverised tooth particles, bacteria, viruses and other microorganisms (Zemouri 2017). As such, we need to



understand our challenges and consider what we still need to learn, and consider what equipment will both protect, while allowing us to function, and provide care (Ge 2020). As a profession we must begin to carry out more extensive research especially about the risks of aerosols in the dental practice, particularly when it comes to viruses, viral load in aerosols and virus viability in those aerosols. Currently there does not appear to be any relevant research on this topic (Asadi 2020, Bennett 2000, Nikitin 2014, Guo 2020). Until we know more about this, we must practice in a way that errs on the side of caution.

### **Our ability to carry out extensive infection control**

Dentistry, as a profession, already works within some of the strictest infection control standards. With the introduction of HTM-01-05 (2009, 2013), infection control standards and the overwhelming positive results the CQC finds when inspecting dental practices, provides ample evidence to support this high standard.

However, it is also clear from the evidence emerging about this Sars-CoV-2 virus, that it will pose a challenge to dental practices. By all accounts (Guo 2020, WHO 2020, CDC 2020, PHE 2020 statements, Chen 2020) this virus is transmitted through airborne particles, aerosols and fomites. It seems to be more virulent, lingers on surfaces and in the air longer than other viruses we already protect against. It is found in the saliva and even salivary glands of infected people. This means as a profession, we just need to take our already excellent infection control measures to an even higher standard. This will involve adding in an extra layer of protection against transmission by aerosols and extending that protection to surfaces, floors and common areas, as described below (Appendix A).

This is not new to our profession. With the emergence of HIV, we as a profession rose to the occasion and to date the number of patients or dental professionals infected through clinical practise remains near zero (Hardie 2018).

In the case of the original SARS outbreak, no dental professionals or patients were infected (Samaranayake 2004, Yip 2005). There are no reported transmissions of the Mers virus to dental patients or dental professionals. Early experience with Sars CoV-2 in the UK from January 2020 until shutdown on March 25<sup>th</sup>, would seem to indicate no reported cases of transmission directly related to the provision of dental care and that was without any extra PPE or precautions (Peng et al 2020). Meng et al (2020) reported on their experience in treating 700 dental patients in a Wuhan, China, hospital dental school setting, during the early days of the pandemic (between the end of December 2019 and February 25<sup>th</sup> 2020). They reported that there were no known dental professional casualties and no known transmissions to patients treated during the pandemic. Nonetheless, they go on to state “on the basis of our experience and relevant guidelines and research, dentists should take strict personal protection measures and avoid or minimize operations that can produce droplets or aerosols”.



### **Changes to the provision of dental care going forwards:**

The profession is already publishing changed standard operating procedure documents (NHS COVID-19 SOPs, ADA Return to Work Interim Guidance Tool Kit 2020, Perry et al Straumann communique 2020, Peng et al 2020, Izzetti et al 2020), suggesting the relevant and logical changes that need to take place in order to allow us to continue to provide dental care. We are being proactive with the interest of our patient's, co-workers and the public at the heart of these recommendations.

Without rehashing those excellent documents (some of the points addressed can be found in Appendix A below), it is clear that until such time as we have an R number at or near 0, in-office instant testing for antigen and antibodies, protective medication or a vaccine, and more knowledge about the virulence of viruses in aerosols, we will need to institute many of these changes.

In the provision of dental care, we will need to make modifications to the entire patient journey in our practices in order to maintain social distancing and minimise the risk of transmission of the disease to other patients and staff {see Appendix A and the aforementioned documents; ( ADA interim Covid 19 guidelines and flow charts 2020, Perry et al Straumann communique 2020, Peng et al 2020)}.

However, one of the main concerns will be trying to reduce exposure to aerosols if an aerosol generating procedure is necessary. Although it would be impossible to eradicate all aerosols, it is possible to mitigate those concerns considerably. It has been shown that it is possible to reduce the bacterial load in aerosols by 94% with pre-procedural mouth rinses (Fine et al 1992). It has been suggested that the Sars CoV-2 may be killed by exposure to an oxidising agent and therefore pre-procedural rinsing with hydrogen peroxide 1.5% to 3% should reduce the viral burden in aerosols (Mentel 1977, Peng et al 2020). In addition, when possible, the use of a rubber dam during restorative procedures will also reduce the microbial count in any aerosols by virtue of the fact that you are blocking out all the soft tissues and the throat area (Harrel 2004, Peng et al 2020). This can result in a reduction of aerosols by up to 70% (Samaranayake 1989).

The use of high-volume evacuation (HVE)/suction has been shown to reduce aerosol contamination coming from the operative site by 90% (Harrel 2004).

### **Masks:**

There has been much discussion about what masks we should wear currently. Should we wear different masks for non-aerosol generating procedures (nAGP) vs aerosol generating procedures (AGP)? For nAGPs it has been shown that standard surgical face masks with visors can be used. Whereas for AGPs, N95 or FFP2 or FFP3 should be considered. Some studies have shown that the standard surgical mask is equal in its effectiveness against transmission of the Influenza virus (Loeb 2009, Radonovich 2019, Long 2020). Nonetheless, the medical repercussions of contracting Sars CoV-2 seem to be far more serious than Influenza. If the government is able to ensure that we can access the N95, FFP2 or FFP3 masks, then we should use them in light of the fact that other studies do show a superiority compared to basic surgical masks (MacIntyre 2017). In addition, considering the evidence that virus sized particles can remain airborne indefinitely if the room you are in has been used to carry out AGPs, then there will be a daily inherent risk, that the virus can still be inhaled in the room if a standard surgical mask is used (Wei 2016). Some consideration therefore may need to be given to creating PPE zones in dental surgeries much like in hospitals during this pandemic. Perhaps in practices with more than one dental



surgery, one surgery is a “red zone” for AGPs and therefore full aerosol PPE with FFP2 or FFP3 masks should be worn and another surgery is “amber zone”, for nAGPs and therefore normal surgical face masks and visors and a light plastic apron, can be worn.

Please Note: Use of all N95 or FFP2 and FFP3 masks must be fit tested.

Overall a layering approach to reducing exposure to aerosols as suggested by Harrel (2004) by incorporating a pre-procedural mouth rinse, rubber dam, HVE, appropriate masks, visors / goggles and now headcovers, shoe covers and long-sleeved gowns, will significantly limit the possibility to acquire or transmit the disease. The recent article ‘Deaths of NHS staff from covid-19 analysed’ (Cook et al 2020), shows that cases are lower in anaesthesia and intensive care than other areas of health care, demonstrating that with good practice the risk can be greatly reduced in high risk areas.

#### **Downtime to allow the airborne particles to settle between patients:**

It has been suggested that the airborne particles in aerosols less than 50 um may take up to 30 minutes to settle (Hinds 1982). Therefore, leaving the room to ‘air’ for 30 minutes before wiping down the surfaces would make sense. However, leaving it for any longer may make no sense at all as it has also been shown that particles of virus size and up to 3um may linger in the air indefinitely (Wei 2016). This being the case, some form of air purifier may make sense with a Hepa filter and possibly UV light (Chen 2010, Hallier 2010).

Research on the virus spread in Wuhan hospitals shows that most particles fall to the ground and the amount of virus found on floors and surfaces was very high. This indicates a likely need to focus on fomite transmission within the dental practice and as such all exposed surfaces will need to be cleaned. Indeed, given the high amount of virus found on the floors and the possibility that when the larger droplets with the virus dry they may become airborne again, the floor should probably also be mopped with an appropriate cleaner between patients, when an AGP has been done (Liu 2020, Guo 2020). In addition, shoe covers should be worn in the clinical environment and removed before entering non-clinical environments.

#### **Financial concerns / implications on the ‘phased return to work’ policy:**

We need to consider how best to create a safe environment to provide care but also to be able to treat/see a reasonable enough number of patients each day, to keep our practices financially viable. Discussing the cost of care is often considered distasteful, but the reality for all of us is the provision of oral health care is already an expensive service to provide. Whilst it is tempting to apply the phased return to “normal” life policy that the Government will no doubt institute in the coming weeks and months for the public, we call upon the Government, NHSE PHE, GDC, CQC and indemnity organisations to consider the financial impact of such a return policy in the delivery of dental care. Just as our medical colleagues prepare to return to elective procedures, so should we.

Whilst we are all eager to start to care for and treat our patients as soon as possible, if the Government applies a phased approach which only allows us to treat emergencies, possibly without the use of AGPs and to carry out examinations, there will be no dental practice that can survive financially on that kind of work.

The BDA is doing an unprecedented amount of work trying to highlight our concerns to the Government and relevant governing bodies. They have conducted a survey that shows that 34% of practices are at risk of going bankrupt as we write this and 70% may not survive 3 months. The implications to the wider



delivery and availability of care are serious and this will affect both NHS and private practices. Indeed, private practices have not been eligible for many of the Government financial rescue plans. NHS practices are so far in a slightly better position as they have continued to receive Government funding. The reality is that private practices help to underpin the NHS, by virtue of the fact that the NHS could not in its present form, handle the added burden of all the private practice patients, if these practices were to go bankrupt. Approximately 65% of dental care spending takes place outside of the NHS, which is an indication of just how much care the NHS would need to provide if the private dentistry sector fails.

That said, the Government is nonetheless spending an inordinate amount of time, money and resources on setting up urgent dental care centres, paying for furloughed staff salaries, offering tax delays, backing CBILS loans to 80% and BBL loans to 100%. The exposed risk to the Government is very high in the case of dentistry. The longer we are restricted from practising to our full potential, the greater the likelihood that the furloughed salaries will have been a waste of money, as we will go bankrupt anyway. This will result in a significant number of dental practices defaulting on the CBILS or BBL loans, requiring the Government backing to become realised.

We suggest that as long as the R number does not go above 1, we should be able to practice dentistry in a manner that is safe for the public, our patients and all dental professionals. In doing, so this would alleviate significant time, resource and financial burdens from the Government.

We respectfully ask the governing bodies to consider that, as a profession, we already have a proven track record of protecting the public. We have outstanding infection control compliance and are best placed and practised to take on new protocols successfully in order to deliver care **now**. We can do this without undermining any of the Government's core 5 principles to relaxing lockdown:

- **Making sure the NHS can cope**
- **Evidence showing a sustained and consistent fall in daily death rates**
- **Reliable data showing the rate of infection is decreasing to manageable levels**
- **Being confident in the range of operational challenges, like ensuring testing and the right amount of PPE, are in hand**
- **Being confident any adjustments will not risk a second peak**

We believe that as a profession we are so well versed in our infection control procedures that the changes mentioned below in Appendix A and in the aforementioned documents (ADA Return to Work Interim Guidance Tool Kit 2020, Perry et al Straumann communique 2020, Peng et al 2020) , are simply a minor change in addition to our existing policies.

However, in order to return to work, the one aspect we need Government and PPE supplier assistance on, is the availability of the correct PPE to practise as outlined below. We fully appreciate that until front-line medical care and therefore PPE demands reduce, the Government and suppliers will not be in a position to offer this to the dental profession.

Nonetheless, when this time comes, it is imperative that our suppliers distribute the PPE fairly and evenly to all dental practices. As they have done in the past, this may require rationing to all practices be they,



NHS, private or corporate. It would be morally wrong and commercially damaging if the suppliers we have worked closely with for many years choose to sell all their PPE stock to only the largest groups and leave the small practices without the ability to practise because of a shortage of PPE.

### **Concluding Comments:**

We provide this letter to help the profession in finding a workable solution, that will allow us to safely deliver much needed and overdue care to our patients and resume normal functioning of the dental industry as a whole.

This letter provides sufficient evidence that at this time point in the pandemic in the UK, and with the available knowledge we have from this pandemic and previous virus-related disease threats, it is now possible for our profession to return to the full practise of dentistry. With the appropriate new infection control measures put in place, dental care can be achieved without undermining any of the Government's efforts to gain control of and eventually eradicate the Sars CoV-2 virus.

Our return to work has widespread benefits to the Government such as reducing logistical and manpower demands on the Government and NHS as well as reducing the financial demands that the government is under to fund and staff numerous urgent dental care centres. It limits the number of practices that will undoubtedly need to declare bankruptcy if they remain closed much longer and thus reduces the risk the Government is taking in backing the CBILS and BBL loans. Additionally, the entire £11 billion dental industry, will once again begin to contribute to the economy. Most importantly, in doing so we can alleviate the suffering of the patients we have spoken to since shutting our doors.

This proposal was written with the knowledge that if the "R" number rises above 1 or the infection rate starts to increase significantly or the death rate begins to rise, we may need to temporarily close again.

### **Modifying protocols as soon as possible:**

As widespread testing, evidence, research, medications or vaccines emerge, it is essential that these strict new infection control procedures be modified as soon as possible, in an effort to relax them back to pre-COVID-19 protocols, if at all possible. It must be recognised by all the governing bodies that practising as described in this letter, is going to be extremely uncomfortable and onerous for both patients and dental professionals. It will also result in a significant cost increase to the delivery of patient care due to equipment, supplies and scheduling changes. For all these reasons, we must consider relaxation of these protocols as soon as the science supports this.

Respectfully submitted

This document was prepared and written by members of the Scientific Committee of the Alpha Omega International Dental Fraternity - London Chapter - representing 150 dentists.

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## Appendix A:

Examples of some changes we will need to address:

- **Pre appointment triage screening** - symptoms question list, disease history, testing if available
- **Scheduling changes** to support social distancing in the practice, staggered appointments, extra down time to “air” the room, schedule AGPs nearer to natural downtime of a treatment room (before lunch or near the end of day). Schedule appointments for vulnerable shielded patients first thing in the morning when the air is cleanest. Follow up appointments and payment for treatment over the phone.
- **Patient arrival** - redo triage questions and check patient temperature. Patient washes hands. If patient cannot go straight into the treatment room, consider asking them to don gloves and a standard mask if they must go into the waiting room (Diaz 2010).
- **Physical environment changes** including surface cleaning schedules in non-clinical areas, minimise or avoid the use of waiting rooms, remove any clutter from waiting rooms, remove magazines and drinks, change layout of waiting room to allow for 2m separation, etc (see aforementioned ADA Return to Work Interim Guidance Tool Kit 2020, Perry et al Straumann communique 2020, Peng et al 2020, Izzetti et al 2020 documents). Staff to wear clinical clothing and change at the office, shoe covers to be worn by all staff and patients in the clinical areas. Perspex screens to protect / separate front desk personnel from patients. Shoe cover donning and doffing point for patients and non-clinical staff.
- **New PPE donning and doffing protocols** particularly for AGPs. Best practice is to have a separate area to do this. Next best, after procedure, doff all gowns, aprons, gloves, headcovers in the room safely and bag. Do not remove mask until you have left the treatment room, alcohol gel your hands and then do so carefully and either wipe it down or dispose of it. Wash or alcohol gel hands again. Wear long sleeved water-resistant gowns, headcovers, shoe covers, visors and glasses or goggles.
  - Masks:  
Use fit tested, N95 or FFP2 or FFP3 as a minimum for all procedures (nAGPs as well as AGP), due to the risk that virus remains floating in the room for many hours and possible indefinitely, after an AGP.
- **In surgery changes** - All non-clinical counters and cabinets in the surgery to be covered by disposable plastic during AGPs. All clinical counters chairs, stools and equipment to be wiped down with mild bleach or other oxidizing solution as determined by the Government and in keeping with manufacturer safety recommendations.  
Pre-procedural mouth rinses with oxidising agents such as 1.5-3% Hydrogen peroxide.  
HVE suction to be used for all procedures  
Rubber dam to be used whenever possible  
Consideration for Hepa filter containing air cleaners in treatment rooms with UV if possible and leave on overnight, may be of benefit but studies so far mainly focus on bacteria. (Chen 2010, Hallier 2010).
- **New post AGPs protocols:**
  - Room- everyone vacate for 30 minutes, open windows to outside if possible.
  - Instruments - until further research - first pass in washer disinfector, then sterilize.  
If no washer disinfector in the practice, then sterilize, clean, inspect, then sterilize again.
  - Return to room after 30 minutes, gloved, gowned and head covered, eye protection and mask and wipe down room and all exposed surfaces.
- **Returning home protocol** - such as do not wear clinic attire home, change shoes, shower immediately.
- **Follow up** - care call and symptom tracking, minimise need for follow up appointments in person.





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**Below are links and references to additional works that we feel should be considered alongside the recommendations in this letter, in order to allow for a considered and balanced approach.**

**Cochrane Oral health review**

[https://oralhealth.cochrane.org/sites/oralhealth.cochrane.org/files/public/uploads/covid19\\_dental\\_reopening\\_rapid\\_review\\_06052020.pdf](https://oralhealth.cochrane.org/sites/oralhealth.cochrane.org/files/public/uploads/covid19_dental_reopening_rapid_review_06052020.pdf)

**International Digital Dental Academy**

**COVID-19 - Research Based Information and Dental treatment protocols**

<https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdocumentcloud.adobe.com%2Flink%2Ftrack%3Furi%3Durn%253Aaaid%253Aascds%253AUS%253A2b5d1218-b5a7-482b-b32e-80afa5de5a36&data=02%7C01%7C%7C92119c3a8f964b7bf79e08d7f35fc5e6%7C84df9e7fe9f640afb435aaaaaaa%7C1%7C0%7C63724485464967368831&sdata=oRQPdWrbhE%2BojSmh7yw3bXzYrXkKuXt9o%2FpNvAwEBg%3D&reserved=0>

**ADA Return to Work Interim Guidance Tool Kit**

[https://success.ada.org/~media/CPS/Files/Open%20Files/ADA\\_Return\\_to\\_Work\\_Toolkit.pdf](https://success.ada.org/~media/CPS/Files/Open%20Files/ADA_Return_to_Work_Toolkit.pdf)

**European Federation of Periodontology ( EFP)**

<https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.efp.org%2Fnewsupdate%2Fefp-covid-19-safety-protocol%2F&data=02%7C01%7C%7Ca6828aef1490431f4b7e08d7f2d293fc%7C84df9e7fe9f640afb435aaaaaaa%7C1%7C0%7C637244858541293283&sdata=79zTmeF%2F1rOUQkMYbewThowZGduqWeOOHfbJvYyVH2c%3D&reserved=0>

**Perry, J. 2020 -Straumann Communique**

[https://www.straumann.com/content/dam/media-center/group/en/documents/covid-19/200420\\_PoV%20COVID-19%20implications%20on%20DSO%20clinic%20operations%20and%20management.pdf](https://www.straumann.com/content/dam/media-center/group/en/documents/covid-19/200420_PoV%20COVID-19%20implications%20on%20DSO%20clinic%20operations%20and%20management.pdf)

**British Association of Private Dentists**

<https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.bapd.org.uk%2Fpdfs%2F3410-Corona-BAPD-Policy-Document.pdf&data=02%7C01%7C%7C9ae0d0901b9b47c271e108d7f2d20c56%7C84df9e7fe9f640afb435aaaaaaa%7C1%7C0%7C637244856437259548&sdat>