Abstract SP34 Figure 1 Demonstrates longitudinal scan in patient’s lateral position. Red circle depicts vertebral artery cranially. Yellow lines highlight facet joints, asterixis show MB position including TON on top of C2-C3 joint. Yellow arrows simulate needle direction out of plane.

Scanning longitudinally from cranial to caudal starting with C2–3 facet joint which has characteristic appearance identified by the presence of a steep step at its upper border, indicating the lamina of C2 and third occipital nerve (TON) crossing over the joint. Following ‘hills’ (joints) and ‘valleys’ (waist of articular pillars with medial branches), from cranial to caudal one reaches superior articular process of C7 with C7 MB crossing over.

It is simple and elegant technique suitable for diagnostic block but less so for radiofrequency denervation as needle/electrode is perpendicular to the course of the nerve. Newer electrodes such as ‘trident’ and ‘venom’ may allow for OOP approach in experience hands.

Finlayson et al described in plane technique from posterior approach visualising the whole needle trajectory through posterior neck muscles and resting safe on the articular pillar5,6,7. One can assess structures cranial and caudal from the needle as well as in the front identifying posterior tubercle, nerve root and vessels prompting needle reposition. Precise electrode position close to articular pillar and along the medial branch could make it very safe technique, suitable for radiofrequency ablation with good outcome.

There is a drawback of this technique requiring constant checking of the cervical level often requiring longitudinal scan as described previously.

For safety, accuracy, precision and time efficiency at St George’s University Hospital Chronic Pain Service (author’s institution), combined fluoroscopy- ultrasound technique has been introduced and widely taught7,8. Since 2012 we performed more than 500 CMB blocks and CMB RF.8,9

For patient in prone position, fluoroscopy helps to define the desired level and initial direction of the needle to achieve ‘tunnel vision’ and further progress to the upper middle part of articular pillar (Fig 2 a). Ultrasound helps to confirm the final needle position, parallel to the medial branch close to the articular pillar. Surrounding neurovascular structures such as the vertebral artery, radicular artery and the anterior nerve root can be identified before proceeding to perform a thermal lesion as illustrated in Figure 2 c. The needle position is verified in both longitudinal and transverse scan.

Cervical Roots Cervical peri radicular injections or selective nerve roots blocks (SNRB) have been well established in interventional pain practice. Sufficient evidence exists to support such an intervention in clinical situation of radicular pain as both diagnostic and therapeutic measures. One study demonstrated that more than 70% patients who responded to cervical nerve root block avoided surgical intervention.10

Cervical region with complex anatomy spinal cord and emerging neural structures, vertebral artery, radicular artery, spinal segmental artery, the ascending cervical artery, deep cervical artery has been potentially vulnerable. More than 100 neurological complications involving brain or spinal cord infarction have been reported. It has become an established practice to