

Standardising nomenclature in regional anaesthesia: an international Delphi consensus study

This document includes all of the results from the first, second, and third round Delphi study, as well as the final results

ROUND 1	RESULTS
ROUND 1	CHANGES IMPLEMENTED
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ROUND 2	CHANGES IMPLEMENTED
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RESULTS	FINAL RESULTS

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REGION	Name	Anatomical description	Comments
ABDOMINAL WALL	1 Rectus sheath block	Injection the plane between the rectus abdominis muscle and posterior rectus sheath	
	2 Ilioinguinal iliohypogastric nerves block	Injection in proximity to the ilioinguinal and iliohypogastric nerves, located within the plane between the internal oblique and transversus abdominis muscles in the lower quadrants of the anterior abdominal wall	
	3 Transversus abdominis plane block	Injection the plane between the internal oblique and transversus abdominis muscles	
	4 Mid-axillary transversus abdominis plane block	Injection the plane between the internal oblique and transversus abdominis muscles at the mid-axillary line	
	5 Subcostal transversus abdominis plane block	Injection the plane between the internal oblique and transversus abdominis muscles along the medial costal margin in the upper quadrants of the anterior abdominal wall	
	6 Anterior quadratus lumborum block	Injection the plane between quadratus lumborum and psoas major muscles	
	7 Lateral quadratus lumborum block	Injection the plane between the aponeuroses of internal oblique and transversus abdominis muscles at the lateral border of the quadratus lumborum muscle	
	8 Posterior quadratus lumborum block	Injection the plane between the quadratus lumborum and erector spinae muscles, on the posterior surface of quadratus lumborum muscle	
	9 Transversalis fascia plane block	Injection the plane between the transversus abdominis and the transversalis fascia	
	10 Rhomboid intercostal plane block	Injection the plane between the rhomboid major and intercostal muscles	69% agreement with the name; 81% agreement with description
PARASPINAL	11 Paravertebral block	Injection in the paravertebral space (between the superior costo-transverse ligament and parietal pleura) in the thoracic region	
	12 Inter-transverse process block	Injection in the tissue between two transverse processes, posterior to the superior costo-transverse ligament or half way between the posterior aspect of the transverse process and the pleura.	ITP: 58% MTP: 42%
	13 Erector spinae plane block	Injection in the plane between the erector spinae muscles and the transverse process	
	14 Retrolaminar block	Injection in the plane between the erector spinae muscles and the lamina	
CHEST WALL	15 Superficial serratus anterior plane block	Injection the plane between pectoralis major and serratus anterior muscles	Discuss: clarification required, remove reference to other muscles from description
	16 Deep serratus anterior plane block	Injection the plane between the posterior surface of the serratus anterior muscle and the periosteum of the rib	
	17 Superficial parasternal intercostal plane block	Injection the plane superficial to the internal intercostal muscles and ribs and deep to the pectoralis major muscle	
	18 Deep parasternal intercostal plane block	Injection the plane between the internal intercostal muscle and the transversus thoracis muscle	
	19 PECS I	Injection the plane between the pectoralis major and pectoralis minor muscles	73% agreement with interpectoral plane block
	20 PECS II	Injection in plane between the pectoralis minor and serratus anterior muscles	53% agreement with pecto-serratus plane block

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QUESTION	OPTIONS	AGREEMENT
1 TAP block: For this anatomical description, should this technique be named:	Lateral transversus abdominis plane block Mid-axillary transversus abdominis plane block Harmonise all three.	11% 89% 27%
2 Transversus abdominis plane block / QL block / transversalis fascia plane block: For this anatomical	Harmonise posterior transversus abdominis and lateral quadratus lumborum bloc	73%
3 Harmonise TAP and QL. What name should the harmonised two blocks take?	Posterior transversus abdominis plane block Lateral quadratus lumborum block	20% 80%
4 Inter-transverse process block: Should the STIL, MTP, MIC, CTF blocks techniques be harmonised to the inter-	Yes No	84% 16%
5 Yes. Should the anatomical description of the inter-transverse process block be accepted?	Yes No	43% 57%
6 Should the anatomical description of the MTP / ITP blocks be "injection in the tissues between 2 transverse	Yes No	86% 14%
7 Should this block be named the inter-transverse process block or the mid-point transverse process to pleura block?	inter-transverse process block MTP block	58% 42%
8 Lumbar multifidus plane block: Should the thoracolumbar interfascial plane block (TLIP) be named the lumbar	Yes No	64% 36%
9 Lumbar multifidus plane block: Should this anatomical description be used for the thoracolumbar interfascial	Yes No	40% 60%
10 Lumbar longissimus plane block: Should the modified thoracolumbar interfascial plane block (TLIP) be named	Yes No	39% 61%
11 Lumbar longissimus plane block: Should these anatomical descriptions be used for the modified	Yes No	48% 52%
12 Rhomboid intercostal plane block: Should this block approach be named the rhomboid intercostal plane block?	Yes No	69% 31%
13 Rhomboid intercostal plane block: Should this anatomical description be accepted?	Yes No	81% 19%
14 Deep serratus anterior plane block: Should this anatomical description be named the deep serratus	Yes No	91% 9%
15 Superficial serratus anterior plane block: Should this anatomical description be named the deep serratus	Yes No	80% 20%
16 Superficial serratus anterior plane block: Should the anatomical description of the superficial serratus anterior plane block be:	Injection in the plane between pectoralis major and serratus anterior muscles Injection in the plane superficial to the serratus anterior muscles Between serratus anterior and latissimus dorsi	2% 52% 46%
17 Deep parasternal intercostal plane block: Should this anatomical description be named deep parasternal	Yes No	85% 15%
18 Superficial parasternal intercostal plane block: Should this anatomical description be named superficial	Yes No	90% 10%
19 Interpectoral plane block: Should this anatomical description be named interpectoral plane block?	Yes No	73% 27%
20 Should the anatomical description used for the PECS I / interpectoral plane block be named the superficial	Yes No	56% 44%
21 Pecto-serratus plane block: Should this anatomical description be named the pecto-serratus plane block?	Yes No	53% 47%
22 Pecto-serratus plane and superficial serratus anterior plane block: Are the anatomical locations of injection for	Yes, they are the same. Harmonise them. No, they are different. Do not harmonise them.	51% 49%
23 Should the anatomical description used for the PECS II / pecto-serratus plane block be named the superficial	Yes No	46% 54%
24 Planes: What term should be used to describe the superficial, deep or muscle-related planes composed of	Fascial plane Interfascial plane	78% 22%

		NAME			DESCRIPTION				
		OVERALL			OVERALL				
REGION	NOTES	NAME	Agreement	Disagreement	Uncure	Agree	Disagree	Uncure	
ABDOMINAL WALL	1A AND 1B SAME BLOCK APPROACH, DIFFERENT NAME, WHICH NAME DO YOU AGREE WITH MORE?	1 Ilioguinal iliohypogastric nerve block	91%	5%	3%	93%	4%	4%	
		2 Transversus abdominis plane block	89%	2%	4%	90%	5%	0%	
		3 A Lateral transversus abdominis plane block	54%	57%	9%	Injection the plane between the internal oblique and transversus abdominis muscles at the mid-axillary line	76%	18%	6%
		B Mid-axillary transversus abdominis plane block	67%	30%	4%	Injection the plane between the internal oblique and transversus abdominis muscles at the mid-axillary line	81%	19%	4%
		4 Posterior transversus abdominis plane block	61%	21%	18%	Injection the plane between the internal oblique and tapering posterior end of transverse abdominis	82%	7%	11%
		5 Subcostal transversus abdominis plane block	91%	5%	4%	Injection the plane between the internal oblique and transversus abdominis muscles along the medial costal margin in the upper quadrants of the anterior abdominal wall	80%	14%	5%
		6 Rectus sheath block	89%	2%	0%	Injection the plane between the rectus abdominis muscle and posterior rectus sheath	98%	0%	2%
		7 Anterior quadratus lumborum block	89%	5%	2%	Injection the plane between quadratus lumborum and psoas major muscles	87%	13%	0%
		8 Lateral quadratus lumborum block	89%	5%	5%	Injection the plane between the psoas muscles of internal oblique and transversus abdominis muscles at the lateral border of the quadratus lumborum muscle	87%	6%	8%
		9 Posterior quadratus lumborum block	89%	4%	0%	Injection the plane between the quadratus lumborum and erector spinae muscles, on the posterior surface of quadratus lumborum muscle	87%	9%	4%
PARASPINAL	11 A AND 12 SAME BLOCK APPROACH OR DOUBLE INJECTION APPROACH, WHICH DO YOU AGREE WITH MORE?	10 Transversalis fascia plane block	81%	12%	7%	Injection the plane between the transversus abdominis and the transversalis fascia	79%	11%	19%
		11 A Rhomboid intercostal plane block	61%	20%	20%	Injection the plane between the rhomboid major and intercostal muscles (single injection)	65%	20%	15%
		B Rhomboid intercostal subserratus plane block	29%	45%	27%	Injection the planes between the rhomboid major and intercostal muscles, then the plane between the serratus anterior and external intercostal muscle (double injection)	47%	33%	20%
		12 External oblique fascial plane block	36%	29%	36%	Injection either deep or superficial to the external oblique muscle at the sixth intercostal space in the mid-clavicular line	44%	30%	26%
		13 Paravertebral block	89%	2%	2%	Injection in the paraspinal space (between the superior costo-transverse ligament and parietal pleura) in the thoracic region	98%	0%	2%
		14 Inter-transverse process block	58%	23%	19%	Injection in the tissue between two transverse processes, posterior to the boundaries of the paravertebral space and anterior to the erector spinae plane	61%	17%	22%
		15 Erector spinae plane block	100%	0%	0%	Injection in the plane between the erector spinae muscles and the transverse process	98%	2%	0%
		16 Retrolaminar block	89%	2%	9%	Injection in the plane between the erector spinae muscles and the lamina	91%	2%	7%
		17 Lumbar multifidus plane block	55%	20%	25%	Injection in the plane between lumbar multifidus and longissimus muscles	68%	7%	25%
		18 Lumbar longissimus plane block	49%	20%	32%	Injection in the plane between lumbar longissimus and iliocostalis muscles	65%	7%	27%
ANTEROLATERAL CHEST WALL	22A-C SAME BLOCK, BUT IT IS NOT SPECIFIC, DO YOU AGREE WITH SPECIFIC OR A NONSPECIFIC NAME MORE?	19 Cervical paraspinal interfascial plane block	43%	20%	37%	Injection in the plane lateral to the cervical semispinalis capitis muscle	44%	20%	36%
		20 Cervical paraspinal interfascial plane block	41%	24%	35%	Injection in the plane between cervical multifidus and semispinalis cervicis muscles	42%	13%	45%
		21 Cervical paraspinal interfascial plane block	40%	22%	38%	Injection in the plane between semispinalis cervicis and semispinalis capitis muscles	39%	18%	43%
		22 A Serratus anterior plane block	44%	44%	13%	Injection the plane between pectoralis major and serratus anterior muscles	40%	49%	11%
		B Deep Serratus Anterior Plane Block	64%	30%	6%	Injection the plane between the posterior surface of the serratus anterior muscle and the periosteum of the ribs	76%	17%	7%
		C Superficial Serratus Anterior Plane Block	62%	32%	6%	Injection the plane between pectoralis major and serratus anterior muscles	63%	22%	15%
		23 A Transversus thoracis plane block	49%	44%	9%	Injection the plane between the internal intercostal muscle and the transversus thoracis muscle	83%	15%	2%
		B Parasternal intercostal plane block (deep)	57%	32%	11%	Injection the plane between the internal intercostal muscle and the transversus thoracis muscle	83%	13%	4%
		24 Parasternal intercostal plane block (superficial)	74%	17%	9%	Injection the plane superficial to the internal intercostal muscles and ribs and deep to the pectoralis major muscle	83%	9%	8%
		25 A PECS I	39%	44%	17%	Injection the plane between the pectoralis major and pectoralis minor muscles	94%	4%	2%
26 A-C SAME BLOCK APPROACH, DIFFERENT NAME, NOTE THE INJECTION APPROACH AND DO YOU AGREE WITH 25A, WHICH ONE DO YOU AGREE WITH MORE?	26 D SAME BLOCK APPROACH, DIFFERENT NAME, NOTE THE INJECTION APPROACH AND DO YOU AGREE WITH 25D, WHICH ONE DO YOU AGREE WITH MORE?	B Interpectoral plane block	54%	41%	6%	Injection the plane between the pectoralis major and pectoralis minor muscles	88%	10%	2%
		C Superficial pectoralis plane block	23%	69%	8%	Injection the plane between the pectoralis major and pectoralis minor muscles	79%	19%	2%
		D Deep A PECS II	30%	57%	13%	Single injection in plane between the pectoralis minor and serratus anterior muscles	57%	41%	2%
		B PECS II	23%	63%	13%	++PECS I+interpectoral plane block+superficial pectoralis plane block++ followed by injection in plane between the pectoralis minor and serratus anterior muscles	40%	54%	6%
	26 C Pecto-serratus plane block	49%	45%	6%	Single injection in plane between the pectoralis minor and serratus anterior muscles	76%	16%	8%	
		D Deep pectoralis plane block	29%	67%	8%	Single injection in plane between the pectoralis minor and serratus anterior muscles	75%	15%	10%

REGION	NAME	DESCRIPTION (anatomical location of injection)	
		ROUND 2 CHANGES FOR ROUND 3	ROUND 2 CHANGES FOR ROUND 3
ABDOMINAL WALL	1 Abdominal diaphragm plane block	Include	Injection is given into the diaphragm and longissimus thoracis muscle, located within the anterior abdominal wall.
	2 Transversus abdominis plane block	Include	Injection is given below the internal oblique and transversus abdominis muscles at the anterior abdominal wall.
	3 Lateral/transversus abdominis plane block	Discuse; most widely favored	Injection is given between the internal oblique and transversus abdominis muscles at the mid-abdominal wall.
	4 Mid-abdominal transversus abdominis plane block	Discuse; favored if it did not reach 10%	Injection is given between the internal oblique and transversus abdominis muscles at the mid-abdominal wall.
	5 Posterior transversus abdominis plane block	Discuse; proposes to have more reliable landmark for identification	Injection is given between the internal oblique and latissimus dorsi muscle of the transverse abdominis muscle.
	6 External oblique abdominis plane block	Include	Injection is given between the external oblique and latissimus dorsi muscle along the medial costal margin in the upper quadrants of the anterior abdominal wall.
	7 Rectus sheath block	Include	Injection is given between the rectus abdominis muscle and posterior rectus sheath.
	8 Anterior quadratus lumborum block	Include	Injection is given between the aponeuroses of internal oblique and transversus abdominis muscle and the anterior quadratus lumborum muscle.
	9 Lateral quadratus lumborum block	Include	Injection is given between the aponeuroses of internal oblique and transversus abdominis muscle and the lateral quadratus lumborum muscle.
	10 Posterior quadratus lumborum block	Include	Injection is given between the quadratus lumborum and erector spinae muscles, on the posterior surface of quadratus lumborum muscle.
	11 Transversalis fascia plane block	Include	Injection is given between the transversus abdominis and the transversalis fascia.
	12 Abdominal intercostal plane block	Include	Injection is given between the thoracic rib and intercostal muscles (single injection).
	13 Abdominal intercostal subcutaneous plane block	Exclude; single-injection favored	Injection is given between the aponeurosis of internal oblique and external intercostal muscle (double injection).
	14 External iliac fascial plane block	Exclude; future research	Injection either deep or superficial to the external iliac muscle or the sixth intercostal space.
PARASPINAL	15 Psoas muscle block	Include	Injection is given to the psoas muscle or between the erector spinae (lumbar and psoas) muscle (in the iliopsoas region).
	16 Intertransversus process block	Discuse; proposed to harmonize IAP, MC, STL, and CTs in one family	Injection is given between two transversus processes, posterior to the branches of the psoas muscle (deep to the transversus process).
	17 Erector spinae plane block	Include	Injection is given in the plane between the erector spinae muscles and the lamina.
	18 Remondino block	Include	Injection is given in the plane between the erector spinae muscles and the lamina.
	19 Lumbar multifidus plane block	Discuse; classification required	Injection is given in the plane between lumbar multifidus and longissimus thoracis muscle.
	20 Lumbar longissimus thoracis muscle plane block	Discuse; classification required	Injection is given in the plane between lumbar multifidus and longissimus thoracis muscle.
	21 Cervical presynaptic cervical plane block	Exclude; future research	Injection is given to the cervical semispinalis capitis muscle.
	22 Cervical presynaptic trapezius plane block	Exclude; future research	Injection is given to the trapezius muscle.
	23 Cervical presynaptic infraspinatus plane block	Exclude; future research	Injection is given to the infraspinatus muscle.
	24 Cervical presynaptic teres minor plane block	Exclude; future research	Injection is given to the teres minor muscle.
	25 Serratus anterior plane block	Exclude; deep or superficial/favored	Injection is given between pectoralis major and serratus anterior muscle.
	26 Deep Serratus Anterior Plane Block	Discuse; classification required; location unclear or otherwise	Injection is given between the posterior surface of the serratus anterior muscle and the posterior of the rib.
	27 Superficial Serratus Anterior Plane Block	Discuse; classification required; location unclear or otherwise	Injection is given between pectoralis major and serratus anterior muscle.
	28 Transversus thoracis plane block	Exclude; parameter intercostal plane block favored	Injection is given between the internal intercostal muscle and the transversus thoracis muscle.
	29 Parameter intercostal plane block (deep)	Discuse; classification required	Injection is given between the internal intercostal muscle and the transversus thoracis muscle.
	30 Parameter intercostal plane block (superficial)	Discuse; classification required	Injection is given superficial to the internal intercostal muscles and is deep to the pectoralis major muscle.
	31 PECRI I	Exclude; interscapular favored	Injection is given between the pectoralis major and pectoralis minor muscles.
	32 PECRI II	Discuse; classification required	Injection is given between the pectoralis major and pectoralis minor muscles.
	33 Superficial pectoralis plane block	Exclude; interscapular favored	Injection is given between the pectoralis major and pectoralis minor muscles.
	34 PECRI III	Exclude; pectoralis minor plane block favored	Single injection in plane between the pectoralis minor and serratus anterior muscles.
	35 PECRI IV	Exclude; single-injection favored	+PPECI: Ultrasound-guided pectoralis plane block = followed by injection in plane between the pectoralis minor and serratus anterior muscles.
	36 Pectoralis minor plane block	Discuse; classification required	Single injection in plane between the pectoralis minor and serratus anterior muscles.
	37 Deep pectoralis plane block	Exclude; pectoralis minor plane block favored	Single injection in plane between the pectoralis minor and serratus anterior muscles.

POSTERIOR TAP, LUMBAR SPINE, TRANSVERSUS ABDOMEN, ERECTOR SPINAES BLOCKS	Are the anatomical locations of injection for these three block approaches the same, meaning harmonization is required? If not, in which of them? Q	They are all the same; harmonize all three	Discuse
		They are the same; harmonize anterior TAP and lateral CTs blocks	Discuse
		They are the same; harmonize anterior TAP and lumbar CTs blocks	Discuse
		They are the same; harmonize anterior CTs and transversus abdominis blocks	Discuse
		All three are different; no harmonization	Discuse

GENERAL ANESTHESIA PLANE BLOCK, ERECTOR SPINAES, SERRATUS PLANE BLOCKS	Are the anatomical locations of injection for these two block approaches the same, meaning harmonization is required? If not, in which of them? Q	They are the same; harmonize both	Discuse
		They are the same; harmonize both	Discuse
		They are different; no harmonization	Discuse
		They are different; no harmonization	Discuse

PLANES	What term should be used to describe the superficial, deep or muscle-related planes composed of consecutive layers? Q	Facial plane	Discuse
		Interfacial plane	Discuse
		Plane	Discuse
		Layer	Discuse

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		Options	Agreement (%)
POSTERIOR TAP, LATERAL QL, TRANSVERSALIS FASCIA PLANE BLOCKS	Are the anatomical locations of injection for these three block approaches the same, meaning harmonisation is required for two or more of them?	They are all the same: harmonise all three	32%
		Two are the same: harmonise posterior TAP and lateral QL blocks	30%
		Two are the same: harmonise posterior TAP and transversalis fascia plane blocks	2%
		Two are the same: harmonise lateral QL and transversalis fascia plane blocks	13%
		All three are different: no harmonisation	23%
SERRATUS ANTERIOR PLANE BLOCK AND PECS II/PECTO- SERRATUS/DEEP SERRATUS PLANE BLOCKS	Are the anatomical locations of injection for these two block approaches the same, meaning harmonisation is required for two or more of them?	They are the same: harmonise them	64%
		They are different: no harmonisation	36%
PLANES	What term should be used to describe the superficial, deep or muscle-related planes composed of connective tissue?	Fascial plane	34%
		Interfascial plane	31%
		Plane	26%
		Unsure	13%

OTHER Consider to add Departmental Panel Review
The supervisor panel shall make their panel review.

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