Ventral

Dorsal

Medial

Lateral

Breast CTV	Upper border	Most caudal	3~5 mm	Major pectoral	Lateral to	Lateral breast
(CTV_B)	of	CT slice	under	muscle or	the medial	fold; anterior to
(Preoperative radiotherapy	palpable/visi	with visible	skin	costae and	perforating	the lateral
group)	ble breast	breast	surface	intercostal	mammarian	thoracic artery
	tissue;		(Skin in	muscles where	vessels;	
	maximally		cT4b-4	no muscle	maximally	
	up to the		cases	(For T4a/T4c	to the edge	
	caudal edge		with	cases, the	of the	
	of the		extensive	major pectoral	sternal bone	
	sterno-clavic		skin	muscle and		
	ular joint		invasion)	ribs should be		
				included)		
Chest wall CTV	Guided by	Guided by	Same as	Same as above	Guided by	Guided by
(CTV_CW)	palpable/visi	palpable/vis	above		palpable/vis	palpable/visible
(Postoperative radiotherapy	ble signs; if	ible signs; if			ible signs; if	signs; if
group)	appropriate	appropriate			appropriate	appropriate
	guided by	guided by			guided by	guided by the
	the	the			the	contralateral
	contralateral	contralateral			contralateral	breast. Usually
	breast;	breast			breast	anterior to the
	maximally					mid-axillary
	up to the					line
	caudal edge					
	of the					
	sterno-clavic					
	ular joint					
Supraclavicular CTV	Caudal to the	Includes the	Sternocle	Anterior aspect	Including	Cranial:
(CTV_SCN)	cricoid	subclavian	idomasto	of the scalene	the jugular	Sternocleidoma
	cartilage	vein with 5	id	muscle	vein without	stoid muscle
1		mm margin,	muscle,		margin;	Caudal junction
		thus	dorsal		excluding	of 1 st rib and
		connecting	edge of		the thyroid	clavicle
		to the	the		gland and	
1		cranial	clavicle		the common	
		border of			carotid	
		CTVn_IMN			artery	
Internal mammary node	Caudal limit	Cranial side	Ventral	Pleura	5 mm from	5 mm from the
CTV	of	of the 4th	limit of		the internal	internal
(CTV_IMN)	CTV_SCN	rib	the		mammary	mammary
		(in selected	vascular		vein (artery	artery
		cases 5-6th	area		in cranial	

Table 1 Suggested CTV delineation for breast and lymph node regions

Caudal

Cranial

			rib)			part down to	
						and	
						including	
						first	
						intercostal	
						space)	
Undissected	Undissected	Includes the	The caudal	Minor	Up to 5 mm	Medial edge	Lateral edge of
axillary	Axillary	cranial	border of	pectoral	dorsal of	of minor	minor pectoral
CTV	level 2	extent of the	the minor	muscle	axillary vein or	pectoral	muscle, but
(CTV_udAL		axillary	pectoral		to costae and	muscle	should exclude
N)		artery (i.e. 5	muscle, but		intercostal		the extent of the
		mm cranial	should		muscles		dissection
		of axillary	exclude the				
		vein)	extent of the				
			dissection				
	Axillary	Includes the	5 mm	Major	Same as level	Junction of	Medial side of
	level 3	cranial	caudal to	pectoral	2	subclavian	the minor
		extent of the	the	muscle		and internal	pectoral muscle
		subclavian	subclavian			jugular	
		artery (i.e. 5	vein			veins,	
		mm cranial				connects to	
		of subclavian				CTV_SCN	
		vein)					
	Interpectora	Includes the	The caudal	Major	Minor pectoral	Medial edge	Lateral edge of
	l nodes	cranial	border of	pectoral	muscle	of minor	minor pectoral
		extent of the	the minor	muscle		pectoral	muscle
		axillary	pectoral			muscle	
		artery (i.e. 5	muscle				
		mm cranial					
		of axillary					
		vein)					