Supplementary Table 2: Study details recovery of postsurgical hypoparathyroidism

Study - Design	Population (*n*)	Surgical procedure	AutoTx (%)	Prophylactic perioperative calcium supplementation	Definition of hypoPTH	Definition of recovery from hypoPTH	*n* hypoPTH at baseline test (%)	*n* recovery at retesting 6 months (%)	*n* recovery at retesting 12 months (%)
Al-Dhahri (2014)[1] - Cohort	Thyroid surgery (186), for benign (105) or malignant (76) conditions, n.r. (5)	Total or completion thyroidectomy, with unilateral or bilateral CND in 8.6%	n.d.	No	PTH ≤ 1.7 pmol/L and calcium level ≤ 2 mmol/L with symptoms of hypocalcemia and a normal magnesium level	PTH > 1.7 pmol/L without symptoms of hypocalcemia	53 (28.5)	46 (86.8)	47 (88.7)*
Arshad (2022)[2] - Cohort	Thyroid surgery (911), for hyperthyroidism 41.9%, (suspected) cancer 36.3% or nodular disease 21.9%	Total thyroidectomy without CND 71.5% Total thyroidectomy with CND 21.9% Completion thyroidectomy without CND 4.1% Completion thyroidectomy with CND 2.6%	Yes (*n* n.r.)	No	≥ 1 of the following criteria: a) PTH < 1.6 pmol/L b) adjusted calcium < 2.1 mmol/L c) initiation of treatment with calcium or activated vitamin D supplements	Complete weaning of calcium or activated vitamin D supplements	270 (29.6), of which 192 (21.1% of total population) used substitution therapy	136 (70.8)	145 (75.5)*°
Diez (2019)[3] - Cohort	Thyroid surgery (1792) for benign (18.9%) or malignant (81.1%) thyroid disease	Total (86.4%) or completion (13.6%) thyroidectomy, with CND in 41.2%	Yes (8.1)	No	Calcium levels < 2.12 mmol/L◊ with inappropriate low PTH levels < 1.6 pmol/L◊◊ and/or need for treatment with calcium or calcitriol	No need for treatment with calcium or calcitriol	866 (48.3)	455 (52.5)	566 (65.4) ≥ 1 year and last visit (date n.r.), another 40

									patients recovered parathyroid function
Guglielmetti (2022)[4] - Cohort	Thyroid surgery (1097) for benign (85.9%) or malignant (14.1%) thyroid disease	Total (49%) or subtotal (51%) thyroidectomy, with CND in %	Yes (14.5)	No	Clinical signs of hypocalcemia or need for calcium and active vitamin D medication, or biochemically proven hypocalcemia and/or *hypoprothrombinaemia*	Normal levels of calcium (2.2-2.6 mmol/L) and PTH (1.6-6.9 pmol/L)[◊◊], and no need for calcium treatment	143 (13.0)	117 (81.8)	142 (99.3)
Gonzalez-Botas (2013)[5] - Cohort	Thyroid surgery (254) for benign or malignant thyroid disease	Total (90.2%) or completion (9.8%) thyroidectomy	n.r.	No	Treatment with calcium with or without calcitriol for clinical signs of hypocalcemia or calcium level < 1.87 mmol/L[◊]	No need for treatment with calcium with or without calcitriol	74 (29.1)	53 (71.6)	62 (83.8)
Kim (2017)[6] - Cohort	Thyroid surgery (316) for malignant thyroid disease	Total thyroidectomy with CND	n.r.	No	Calcium replacement when calcium level < 2.05 mmol/L[◊]	No need for treatment with calcium/vitamin D	99 (31.3)	38 (38.3)	44 (44.4) In the 3rd year after surgery, another 2 patients recovered parathyroid function
Proye (1990)[7] - Cohort	Thyroid surgery (729)	Total thyroidectomy (33%), bilateral resection (67%)	Yes (1)	Yes, calcium and phosphate suppletion	Calcium level < 2.00 mmol/L[◊] + phosphate > 1.29 mmol/L[◊◊◊], or calcium level < 1.87 mmol/L[◊]	Calcium > 2.00 mmol/L[◊] + phosphate < 1.29 mmol/L[◊◊◊], sustained 3 months after cessation of	27 (3.7)	21 (77.8)	25 (92.6)*

						supplementation therapy			
Razack (1997)[8] - Cohort	Thyroid surgery for Graves' disease (62)	Total thyroidectomy	n.r.	No	Calcium level < 2.00 mmol/L[◊]	No need for treatment with calcium/vitamin D	23 (37.1)	21 (91.3)	22 (95.7)
Ritter (2015)[9] - Cohort	Thyroid surgery (1054) for benign (28.7%) or malignant (32.8%) thyroid disease, thyroiditis (35.8%) or other (2.7%)	Total (95.7%) or completion (4.3%) thyroidectomy, with CND in 9.8% and modified radical neck dissection in 6.5%	Yes (17.1)	No	PTH < 1.1 pmol/L[◊◊]	PTH ≥ 1.1 pmol/L[◊◊] and patient did not require calcitriol or > 2g/day calcium supplementation to avoid hypocalcemic symptoms	189 (18)	160 (84.7)	169 (89.4)
Roberts (2023)[10] - Cohort	Thyroid surgery (133) for autoimmune thyroiditis (41%), multinodular goiter (23%) or malignant thyroid disease (36%)	Total (83.5%) or completion (16.5%) thyroidectomy *n* CND n.r.	Yes (*n* n.r.)	No	PTH < 1.6 pmol/L	PTH ≥ 1.6 pmol/L	26 (19.5)	20 (76.9)	25 (96.2) 5 of 6 patients with hypoPTH > 6 months recovered at mean 24 (range 14-33) months
Villaroya-Marquina (2018)[11] - Cohort	Thyroid surgery (854) for benign (78%) or malignant (22%) thyroid disease	Total thyroidectomy *n* CND and *n* modified radical neck dissection n.r.	Yes (*n* n.r.)	No	iPTH < 1.4 pmol/L	iPTH ≥ 1.4 pmol/L in asymptomatic patients not requiring replacement therapy	375 (43.9)	257 (68.5)*	278 (74.1)* In the 2nd year after surgery, another 12 patients recovered

									parathyroid function
Wang (2018)[12] - Cohort	Thyroid surgery (110) for benign (21.8%) or malignant (78.2%) thyroid disease	Total thyroidectomy, with bilateral CND in 80.9% and lateral node dissection in 18.2%	n.r.	No	iPTH < 1.5 pmol/L◊◊, or calcium < 2.0 mmol/L, or hypocalcemic symptoms requiring calcium/vitamin D treatment	Normal levels of calcium (2.0-2.6 mmol/L) and iPTH (1.6-6.9 pmol/L)◊◊, and no need for calcium/vitamin D treatment	58 (52.7)	48 (82.8)	55 (94.8)
Xing (2021)[13] - Cohort	Thyroid surgery for PTC (1024)	Total thyroidectomy, with bilateral CND in all patients	Yes (*n* n.r.)	Yes, 4g calciumgluconate i.v. drip	PTH < 1.5 pmol/L◊◊	n.r.	762 (53.5)	747 (98.0)	753 (98.8) In the 2nd year after surgery, another 3 patients recovered parathyroid function
Zhang (2022)[14] - Cohort	Thyroid surgery for PTC (310)	Total thyroidectomy, with bilateral CND in all patients	Yes (51.6)	No	PTH < 1.7 pmol/L◊◊ or calcium < 2.11 mmol/L	Normal levels of calcium (2.11-2.52 mmol/L) and PTH (1.7-9.3 pmol/L)◊◊	94 (30.3)	85 (90.4)	90 (95.7)

autoTx = parathyroid gland autotransplantation
hypoPTH = hypoparathyroidism
CND = central neck dissection
PTC = papillary thyroid cancer
PTH = parathyroid hormone
iPTH = intact parathyroid hormone
n.d. = not described
n.r. = not reported
* since loss to follow-up for retesting was reported, the calculated incidence is a conservative estimate
° all of those who recovered had a PTH of ≥ 1.6 pmol/L at 6 months
◊ converted from mg/dL with conversion factor 0.2495

◊◊ converted from pg/ml with conversion factor 0.1061
◊◊◊ converted from mg/dL with conversion factor 0.3229

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