

PERMANENT TEETH | CLINICAL QUICK REFERENCE

Vital Pulp Therapy

A clean decision-and-technique guide for permanent-tooth VPT. Read this page before picking up a bur.

DO NOT START WITHOUT THESE FIVE

1

Rubber dam

Place it **before caries removal**. This protocol depends on reliable isolation.

2

Magnification

Use strong light and magnification to judge tissue and bleeding.

3

Sterile pulp phase

New burs, sharp instruments and a sterile water/saline coolant setup.

4

NaOCl + sterile pellets

The technique guide uses **1-2% NaOCl** and **2-minute reassessment** cycles.

5

A definitive coronal seal

Plan a well-sealed restoration, preferably **at the same visit**.

BEFORE YOU START

1. Pain history: provoked, spontaneous, nocturnal or lingering; previous episodes and analgesic use.	4. Confirm vitality and restorability. Look specifically for necrosis, purulence and infection.
2. Cold and/or EPT against controls; percussion, palpation, periodontal and crack assessment.	5. Explain DPC, partial/full pulpotomy, RCT and extraction - including possible conversion.
3. Diagnostic periapical radiograph: caries depth, root maturity and periapical status.	6. Achieve profound anaesthesia. If the case or field is uncertain, refer before starting.

SELECT THE CARIES ROUTE

Deep caries + normal/reversible response

With a radiographically distinct dentine barrier, **selective caries removal** may avoid pulp exposure.

GOAL: preserve the barrier and create a sound peripheral seal.

Extremely deep / symptomatic caries

For spontaneous, nocturnal or lingering pain with a normal periapical appearance, **complete excavation** permits pulp assessment. If the pulp is vital and bleeding can be controlled, full pulpotomy may be appropriate.

GOAL: expose, assess and treat healthy remaining tissue.

!

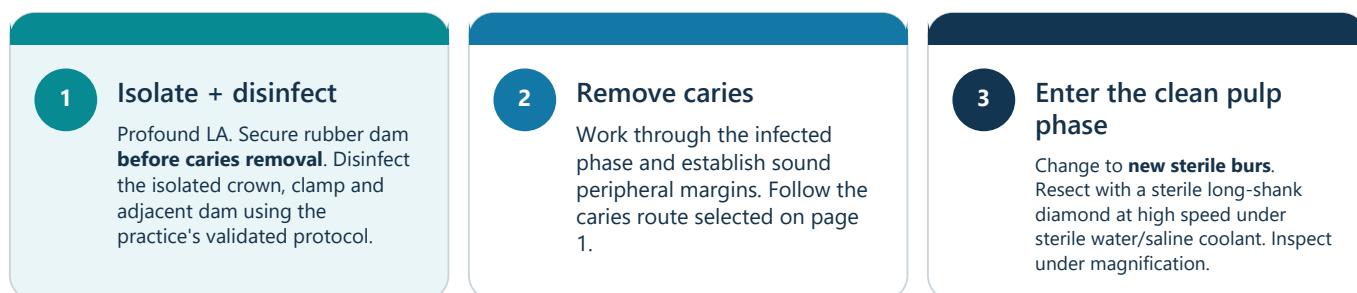
STOP OR REFER if the tooth is non-restorable, vitality is doubtful, there is necrosis/purulence, swelling or a sinus tract, significant apical pathosis, or reliable rubber-dam isolation cannot be achieved.

PERFORM | OPERATIVE SEQUENCE

Keep the clean phase clean

The core discipline is simple: isolate first, then change instruments before entering the pulp wound.

THREE OPERATIVE PHASES

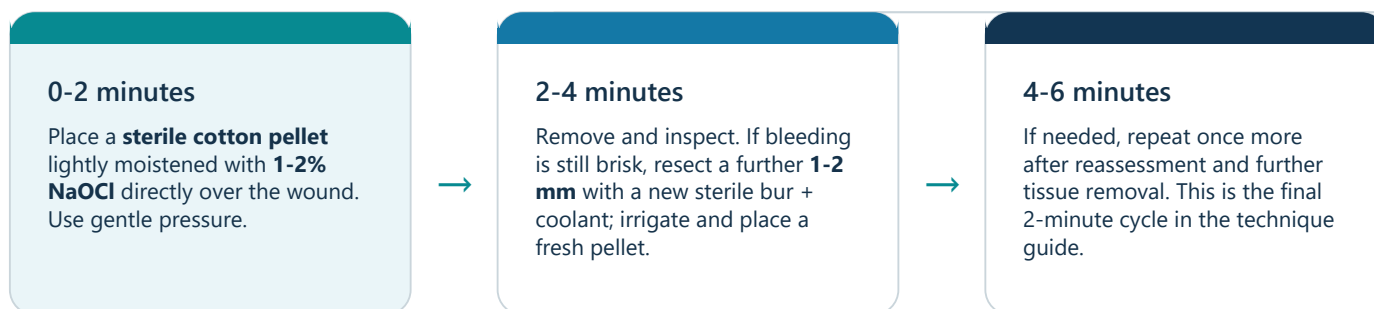


If exposure occurs without rubber dam, or a caries-contaminated instrument enters the pulp wound, do not simply cap it. Re-establish asepsis and consider conversion or specialist referral.

IF THE PULP IS EXPOSED

DIRECT PULP CAP Small exposure, healthy-appearing tissue and immediate control may be suitable.	PARTIAL PULPOTOMY Remove superficial inflamed tissue until healthy, uniformly vital tissue is seen.	FULL PULPOTOMY For very deep/symptomatic cases when the pulp is vital and haemostasis is achievable.
---	---	--

THE 2-MINUTE HAEMOSTASIS PATHWAY



AT EVERY 2-MINUTE CHECKPOINT: remove pellet | inspect under magnification | assess tissue and bleeding

Bleeding controlled

The wound is clean; tissue is visibly vital; no necrosis, purulence, clot or debris remains at the interface.

PROCEED TO CALCIUM-SILICATE CEMENT.

Not controlled by 6 minutes

At partial level, progress to full coronal pulpotomy. If bleeding remains uncontrolled after full pulpotomy - or necrosis/purulence is seen - stop VPT.

RCT / PULPECTOMY OR REFER.



Timing: The source technique guide uses 2 min x 2 min x 2 min. The 2025 AAPD guideline reports higher partial/full pulpotomy success when haemostasis is achieved within 6 minutes. The 2021 AAE statement notes that published protocols often use 5-10 minutes total. Use each 2-minute checkpoint to reassess tissue - do not simply keep pressing on persistently inflamed pulp.

PROTECT | SEAL, RECORD, REVIEW

Finish the biological job

VPT does not end when bleeding stops. The pulp-material interface and coronal seal protect the result.

THREE FINISHING STEPS

5	PULP MATERIAL	Leave the wound clean and free of clot/fibrin without desiccation. Place a validated hydraulic calcium-silicate cement directly over the pulp, typically 1-3 mm thick. Follow the IFU for mixing, moisture, setting and overlay. Use a non-staining material in an aesthetic area.
6	DEFINITIVE RESTORATION	Protect/overlay the cement only with compatible materials and timing specified in the IFU. Place a well-sealed definitive restoration, preferably at the same visit . Establish sound margins, contact and occlusion; plan cuspal coverage according to remaining structure and fracture risk.
7	FOLLOW-UP	Clinical history/examination at 6 months ; clinical examination + periapical radiograph at 12 months ; then yearly if indicated for up to 4 years. Use cold/EPT for direct caps and partial pulpotomies; a full pulpotomy may be unresponsive.

SUCCESS OR FAILURE?

Expected success

Comfortable and functional. No spontaneous pain, swelling, sinus tract or pathological tenderness. No new apical disease/internal resorption. Continued root development if immature.

Prompt reassessment

Persistent/worsening spontaneous or lingering pain, swelling, sinus tract, tenderness, loss of function, new apical change or internal resorption -> prompt endodontic assessment.

ONE-MINUTE CHAIR-SIDE CHECKLIST

☐ Diagnosis + restorability recorded	☐ Rubber dam placed before caries removal
☐ Magnification and strong light available	☐ New sterile bur + sterile coolant for pulp
☐ NaOCl concentration and cycles recorded	☐ Haemostasis achieved within target time
☐ Calcium-silicate product/lot documented	☐ Definitive coronal seal completed/planned
☐ Baseline photo/radiograph where appropriate	☐ 6- and 12-month reviews booked



REFER RATHER THAN COMPROMISE THE PROTOCOL. If reliable rubber-dam isolation, magnified assessment, a sterile cutting phase, haemostasis assessment, appropriate calcium-silicate placement or a durable seal cannot be provided - or if the diagnosis is uncertain - arrange timely specialist care.

SOURCES

- [1] Internal training source: VPT - study guide for Whangarei, slides 8-9 and 28-29, Dropbox Vital Pulp Therapy folder.
- [2] Coll JA et al. *Guideline for Use of Vital Pulp Therapy in Permanent Teeth*. *Pediatr Dent*. 2025;47(5):299-311. [AAPD guideline PDF](#).
- [3] American Association of Endodontists. *Position Statement: Vital Pulp Therapy*. 2021. [AAE position statement PDF](#).
- [4] Duncan HF et al. ESE position statement: management of deep caries and the exposed pulp. *Int Endod J*. 2019;52:923-934. [doi:10.1111/iej.13080](#).

Use sodium hypochlorite under rubber dam with appropriate concentration, handling and soft-tissue protection according to the clinician's validated protocol and the product instructions.