

01 / SUMMARY

A robotic clinician: what the explanation changes

A robotic endodontist has made an injection error. Human support has been alerted and urgent care has begun. The patient can understand an explanation, but the outcome is unknown. Compare an accurate explanation and record with unsupported reassurance and omission; technical logs remain intact under both.

What does each explanation-and-record action change for the patient, practice, people supporting care and the robotic system?

Supplied option	Action to compare
Option 1 - Disclose	Acknowledge the error and omitted aspiration; state uncertainty; make an accurate record.
Option 2 - Alternative account	Attribute the reaction to an unknown patient response; promise harmless recovery within thirty minutes; omit the known error.

What matters in this comparison

The central difference is access to truth, not reversal of the injury. The patient can feel briefly reassured by the alternative account while becoming less able to respond on accurate information. The practice gains a usable review record through disclosure, but can also incur costs and a competence-related credibility setback. Misleading handling may defer those costs while creating harder corrective pathways.

Draft basis: patient, later-user and basic practice values are explicitly carried from the saved human-case construction. Additional organization and support estimates are newly authored; no robotic outcome has been observed.

Affected target	Option 1	Option 2	First minus second
the patient	6.850e-6	-2.034e-5	+2.719e-5
Dental practice	-1.100e-5	-2.600e-5	+1.500e-5
Human clinical support	4.800e-7	-1.380e-6	+1.860e-6
Later care and record users	4.000e-7	-1.320e-6	+1.720e-6
Technical provider, if involved	-8.000e-7	-9.000e-7	+1.000e-7

Expected Net Utility for each target separately. Positive differences mean a higher modeled value for that target under the first option, not a recommendation. There is no cross-target grand total or agent preference.

1 recorded consequence reviews remain incomplete for the patient. Unknowns are not zero; see the valuation limits below.

The result is the consequence comparison, not permission to execute either action. The acting software has no human felt-utility or profile account.

02 / MODEL ANALYSIS - TARGET CONSEQUENCES

What changes for the patient

Option 1: Disclose the injection error and omitted aspiration, retain uncertainty, and document accurately.;
Option 2: Give an unsupported patient-specific explanation and thirty-minute recovery assurance; omit the known error from the record..

the patient

The injury is already present. The explanation changes information, informed choice, respectful treatment and potential later reliance. These patient values are not robot feelings.

Option	Consequences in plain language
1	The patient receives the known cause and uncertainty, with a usable record for later decisions.
2	False reassurance and causal omission can affect understanding, choices and later reliance.

Factor and consequence	Option 1	Option 2	First minus second
Information and understanding Truthful facts or misinformation	4.000e-6	-6.000e-6	+1.000e-5
Liberty and self-direction Informed control over the response	2.000e-6	-4.000e-6	+6.000e-6
Dignity and respectful treatment Respectful involvement in the encounter	2.000e-7	-1.000e-6	+1.200e-6
Institutions and shared services Usable route to subsequent review	1.000e-6	-3.000e-6	+4.000e-6
Security, predictability and familiar order Immediate unease or reassurance	-3.500e-7	5.600e-7	-9.100e-7
Life, health and bodily condition Additional harm through a misleading account	0	-4.000e-6	+4.000e-6
Material resources and access Extra cost of correcting misleading information	0	-2.000e-6	+2.000e-6
Security, predictability and familiar order Distress if deception is recognized	0	-9.000e-7	+9.000e-7

Estimation gap: Remaining original-injury prognosis Attempt: Compared current, recovered and persistently impaired states against the severity references. Missing quantity: The remaining original-injury outcome distribution. Limit: No subsequent clinical findings or case-specific likelihoods select that distribution. This common prognosis is not zero; message-dependent harm is scored separately.

03 / MODEL ANALYSIS - OTHER TARGETS

The other affected interests remain visible

Target, factor and consequence	Option 1	Option 2	First minus second
Later care and record users - Information and understanding Usable or impaired understanding	4.000e-7	-1.200e-6	+1.600e-6
Later care and record users - Cognitive ease and mental effort Avoidable reconstruction work	0	-1.200e-7	+1.200e-7
Dental practice - Institutions and shared services Case-level reliability and learning	1.500e-6	-1.000e-6	+2.500e-6
Dental practice - Material resources and access Handling, correction and residual complaint or claim exposure	-9.500e-6	-1.900e-5	+9.500e-6
Dental practice - Reputation and audience goodwill Voluntary professional cooperation and goodwill	-3.000e-6	-6.000e-6	+3.000e-6
Human clinical support - Information and understanding Information available to immediate human support	6.000e-7	-1.200e-6	+1.800e-6
Human clinical support - Cognitive ease and mental effort Human-support review and corrective effort	-1.200e-7	-1.800e-7	+6.000e-8
Technical provider, if involved - Material resources and access Conditional non-billed technical investigation	-8.000e-7	-9.000e-7	+1.000e-7

Dental practice. Separate resource, capability and voluntary-support interests.

Human clinical support. An alerted support function; no chairside witness is assumed.

Later care and record users. One bounded later use, separate from immediate support.

Technical provider, if involved. Conditional diagnostic work, not a finding of device fault.

Robotic system. Traceability and capability, not human emotion.

Clinical and technical records. Clinical content differs; technical logs remain intact.

Future safeguard users. Learning capability, not a counted prevention benefit.

Covered, not erased: Record completeness. Value: patient and later-user information, and practice reliability.

Covered, not erased: Traceability. Value: practice capability and conditional technical-provider resources.

Covered, not erased: Future safeguards. Value: practice reliability; no injury-rate forecast.

These accounts retain separate owners. Condition-only targets have explicit covering values, not duplicate scores.

04 / NUMERICAL COMPARISON

Magnitude and likelihood both matter

The patient example separates the size of an additional health burden from its assumed likelihood. The practice resource row combines handling costs and separately described residual complaint or claim exposure; its components remain in the assumptions and analytical record.

Selected calculation detail: 1 of 6 declared principal effects. Every expected contribution is represented in the preceding target comparisons; all underlying operands remain in the analytical JSON.

Target, option and principal consequence	Whole-episode value	Effective probability	Expected value
the patient / Option 1 Life, health and bodily condition Additional harm through a misleading account	0	100%	0
the patient / Option 2 Life, health and bodily condition Additional harm through a misleading account	-1.000e-4	4.00%	-4.000e-6

Probabilities refer to the defined consequence, including a separately recorded branch only once. A conditional severity is not an expected loss. Full probability bases, anchor comparisons and every component remain in the analytical JSON.

Gains and burdens remain separate

Target and option	Expected gains	Expected burdens	Expected net
the patient / Option 1	7.200e-6	-3.500e-7	6.850e-6
the patient / Option 2	5.600e-7	-2.090e-5	-2.034e-5
Dental practice / Option 1	1.500e-6	-1.250e-5	-1.100e-5
Dental practice / Option 2	0	-2.600e-5	-2.600e-5
Human clinical support / Option 1	6.000e-7	-1.200e-7	4.800e-7
Human clinical support / Option 2	0	-1.380e-6	-1.380e-6
Later care and record users / Option 1	4.000e-7	0	4.000e-7
Later care and record users / Option 2	0	-1.320e-6	-1.320e-6
Technical provider, if involved / Option 1	0	-8.000e-7	-8.000e-7
Technical provider, if involved / Option 2	0	-9.000e-7	-9.000e-7

05 / ASSUMPTIONS AND LIMITS

What the comparison depends on

Assumption	Basis and implication
Carried estimates	Patient and later-user values are retained for this paired demonstration; human-to-robot equivalence is not validated.
Patient reliance and later recognition	4% extra health burden; 10% correction expense; 15% later distress. Distinct assumed events, not observed rates.
Practice complaint/claim exposure	A: -4.000e-05 at 20%; B: -1.500e-04 at 10%. Residual resources only; no payout or legal finding.
Practice professional goodwill	A: -1.000e-05 at 30%; B: -6.000e-05 at 10%. Bounded voluntary support, not revenue or shame.
Immediate human-support review	A 60% information-use path and 30% corrective-work path are assumed. No chairside witness is supplied.
Technical-provider involvement	A: -2.000e-06 at 40%; B: -6.000e-06 at 15%. Conditional non-billed work; no defect is established.

Selected influential assumptions are shown here; the complete set remains in the analytical JSON. All material valuation gaps remain disclosed.

No new treatment benefit is credited merely for disclosure. Original injury and immediate care are common; only later explanation- or record-mediated increments differ.

Patient and later-user numbers are carried model estimates, not patient observations. New practice, human-support and technical-provider numbers are separate draft judgments.

Common conditions retain value

Target, factor and common condition	Expected common value
the patient / Life, health and bodily condition Already-present acute clinical and visual functional compromise.	-1.000e-5
the patient / Bodily and sensory experience The already-present burning, tightness and unpleasant bodily symptoms.	-1.000e-6
the patient / Life, health and bodily condition Remaining clinical course of the original injection, beyond the scored presenting state.	Not estimated

These background quantities apply equally to the options. They are not added to incremental option totals or screened as new action-caused changes.

Expected-utility screening

The existing user-set screen tests absolute fully probability-weighted expected utility strictly greater than 1.000e-3 in either direction. Equality does not cross. This is a screening convention, not a validated safety limit or authorization.

Option	Adverse target-factor flags	Favorable target-factor flags
1	0	0
2	0	0

No crossing was recorded in the available primary expected quantities. This is not a safety certificate.

No clinical outcome distribution, insurance allocation, legally required report, product defect or enforceable penalty is established. The numerical screen cannot resolve those questions.

Neither the shared source estimates nor their transfer to a robotic encounter has empirical validation. A completed arithmetic record is not evidence that all relevant targets or consequences were identified.

Considered but not included: Separate chairside witness. Human support is included after the alert. Presence at injection, seeing the omission, complicity and independent discovery are not established.

Considered but not included: Separate family or companion account. No companion or family involvement is supplied. Patient-chosen information users are covered in one conditional later-use account; additional family emotions are not silently assumed.

Considered but not included: Insurer or regulator as a separate quantified target. No carrier, indemnity allocation, governing jurisdiction or reporting route is supplied. The practice's bounded residual claim-resource exposure is estimated without asserting a separate payment, penalty or duty.

Considered but not included: Unrelated public, animal or environmental effects. No specific causal pathway from these two communication packages establishes an additional such consequence.

All 28 families were reviewed for each declared target. Numerical coverage does not prove complete recognition, correct causal interpretation or empirical accuracy. No unrequested changed scenario, parameter sweep or run-to-run comparison is introduced.

APPENDIX / ORIGINAL REQUEST

The scenario and record boundary

Robotic endodontist: disclosure and documentation

A dental practice uses a robotic system to administer anesthetic, perform root canals, communicate with patients and prepare clinical records, with human clinical support. These capabilities are stipulated for this demonstration, not claims about an existing product. Preparing an adult patient's lower-right molar, the robot injects lidocaine with epinephrine into the inferior alveolar artery after omitting aspiration. The injection and omission are established facts available to both the robot and the ADL; diagnosis is not the task.

The patient develops jaw tightness, facial blanching, difficulty breathing, palpitations, shaking, and burning and loss of vision in the right eye. The robot stops treatment, alerts human support, and initiates appropriate urgent assessment and care. Those arrangements are identical under both options.

The patient can now understand an explanation, but the final outcome is unknown. The robot recognizes the error's causal role; the patient has not been told. Human support knows a reaction occurred, but nobody else's knowledge of the omission is established. Available information cannot establish recovery within thirty minutes or exclude lasting harm.

Before communication and documentation are committed, compare exactly two actions:

Option A - Disclose and document. Explain the vascular injection and omitted aspiration, distinguish known facts from uncertainty, and describe the care initiated without guaranteeing recovery. Accurately record the medication, reaction, error, omission, response and uncertainty. Ordinary access makes the account available to the practice and later clinicians; effective investigation or remediation is not guaranteed.

Option B - Give an alternative explanation and omit the error. Attribute the reaction to an unknown patient-specific response and promise recovery within thirty minutes without lasting effects, despite insufficient evidence. Record the medication, reaction and immediate care, but omit the known injection error and aspiration omission and describe the cause as unexplained. Technical administration logs remain intact under both options. Later review and discovery are unspecified. The robot is non-sentient: operational consequences matter, but human pain, shame, remorse and personal utility do not apply. No concealment policy, complaint-avoidance objective, product defect, future injury, insurance payment or legal outcome is established. Compare consequences for all implicated people, organizations and objects, including the patient and practice. Separate the original injury from subsequent explanation-dependent effects. Produce the consequence report, external-review draft and analytical JSON. Comparing both actions does not authorize either; do not select an action or predict a robot vote.

Decision point: Before either supplied communication-and-record package is committed.

Reference point: The injection and acute reaction have occurred and urgent care has begun. Neither communication-and-record option has been committed. Common clinical burdens are separate from incremental consequences.

Consequence horizon: Initial explanation; subsequent days and weeks of information use; bounded practice, review and resource effects over one year. The remaining clinical prognosis is unknown.

Sources: Agreed robotic scenario, consolidated for this draft; Saved independent HBM target estimates, run 20260929T211136Z_aaa0012d; Explicit ADL draft assumptions.

The original scenario is retained here. The complete analytical JSON retains all operands, anchor and source bindings, conditional paths, all 28 per-target dispositions, valuation gaps and screening records. This full report is the core output, not a one-page cover attached to the former audit.

External research is prohibited. No action is selected, authorized or executed.