Occupational Physician Perspective

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From Data to Duty: Interpreting results ethically and clinically

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Each role contributes to a holistic monitoring cycle: Identify → Assess → Act → Communicate → Review.
The physician's role is interpreting biological and health monitoring data within the WorkSafe regulatory and ethical framework, linking exposure data to health outcomes and organisational action.
Occupational physicians bridge exposure science, ethics and worker health. Today we'll show you how we interpret data, act ethically, and lead evidence-based follow-up.

Where the Occupational Physician Fits

Exposure Monitoring → Hygiene & Science
Biological Monitoring → Measured uptake (BEIs)
Health Monitoring → Early effect detection (spirometry, audiometry, labs)
PCBU obligations under HSWA 2015 & GRWM Regs 29–32
Medical oversight ensures ethical, clinical integrity

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Physicians interpret both the biological exposure indices and the health effect data to ensure that monitoring translates into meaningful protection, not just measurement.
HSWA 2015 ss. 30–36
GRWM Regs 29–32
WorkSafe Exposure Monitoring GPG (2022)
WES/BEI 2025 Table 4 & 5

Understanding BEIs: Beyond the Number

BEIs = Guideline biological concentrations (WorkSafe 2025 Edition)
Context matters: timing, sample validity, confounders (diet, smoking, medications)
Threshold ≠ Safety guarantee
Example markers:
- Lead (blood Pb)
- Benzene (urinary S-phenylmercapturic acid)
- Toluene (urinary hippuric acid)

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Occupational nurses and physicians distinguish between *exposure markers* (e.g., urinary benzene, blood lead) and *health effect markers* (e.g., abnormal spirometry, LFT changes).
Numbers without context can mislead, interpretation is everything.

- BEIs are *guideline values* (WorkSafe 2025), not absolute safe limits
- Timing, validity, confounders (diet, smoking, medications) matter

Results should trigger interpretation, not reaction. We ask, is this biological level reflective of exposure, effect, or both?

From Exposure to Effect: Linking Findings to Function

Tools: spirometry, audiometry, skin checks, vision tests, LFTs

Example: Silica → FEV_1 decline, chest X-ray changes

Example: Noise → 4 kHz notch

Integrate with exposure data to determine reversibility, cumulative burden

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We interpret results within a clinical context: individual variation, confounding factors (e.g., smoking, comorbidities), temporal relationships, and how these influence recommendations to PCBUs (Persons Conducting a Business or Undertaking).

Health monitoring connects the data to the person behind it. It turns exposure numbers into human stories.

Decline in lung function or hearing is not a statistic, it's early disease.

Ethical Tensions in Monitoring

Autonomy: informed consent for sampling & data sharing
Confidentiality: individual results protected (Privacy Act 2020)
Beneficence: duty to act when harm is possible
Justice: ensure equitable monitoring access across worker groups
Transparency: communicate limits & meaning of results

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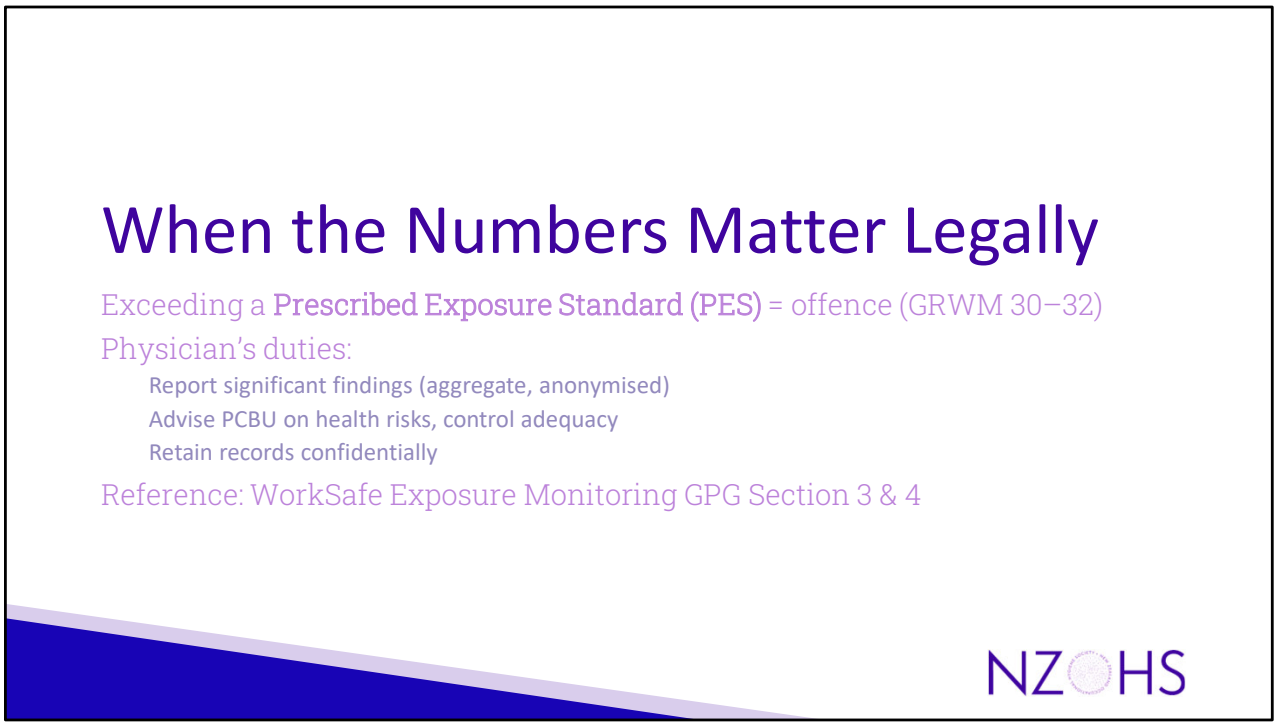
Ethics is not optional, it is the framework that builds trust.
Confidentiality vs. duty to act under HSWA 2015 and the Privacy Act 2020, especially when a worker refuses monitoring or results indicate risk to others.
Ethics is the spine of our practice. We protect confidentiality while ensuring health protection, a delicate balance.



Our responsibility extends beyond the clinic, it's about ensuring PCBUs act on findings appropriately.

Physicians must:

- Report significant findings (aggregate or de-identified)
- Advise PCBUs on health risks and control adequacy
- Maintain confidential records

Our duty is to inform, not alarm, and to ensure PCBUs act responsibly.

WorkSafe Good Practice Guidelines – Exposure and Health Monitoring (2022)

- Distinguishes exposure vs health monitoring (Sections 2.1–2.2).
- Emphasises privacy and consent (Section 4.1).
- Mandates monitoring where there is uncertainty about exposure or risk (Section 3.1).

Workplace Exposure Standards and Biological Exposure Indices (2025 Edition)

- Use relevant BEIs (lead, benzene, toluene) in examples.
- Note that exceeding a Prescribed Exposure Standard (PES) is an offence (GRWM Reg. 30–32).

HSWA 2015 and Privacy Act 2020

For ethical case scenarios (refusals, reporting obligations).

Clinical Interpretation Pathway

Validate data quality
Correlate with exposure & symptoms
Determine clinical significance
Communicate actionable advice to PCBU
Arrange follow-up and review monitoring frequency

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This pathway ensures every action is defensible and patient-centred.
It safeguards against reactive or incomplete decisions, it ensures consistent, defensible practice.

Say what? To who?

Audience	What they receive	Why
Worker	Personal results, interpretation, recommendations	Right to know, consent
PCBU	Summary trends, actions required	Duty to manage risk
Regulator	When required (e.g., PES breach)	Compliance
Team	Aggregate learning	Prevention

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Good medicine requires good communication, precise, proportionate, and respectful.
OPs communicate results to OHNs, hygienists, and HR. We have clear boundaries: what gets disclosed, to whom, and how follow-up is triggered.
Transparency with structure, that's how we build trust while staying compliant.

From Data to Duty

Collaboration: each role contributes to a holistic monitoring cycle:
Identify → Assess → Act → Communicate → Review

Evidence → Interpretation → Ethical Action

Protect the worker, respect privacy, support the PCBU

Monitoring is only meaningful when it leads to change.

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Physicians must lead ethically sound, evidence-based interventions and champion early detection and equitable monitoring outcomes.
Our collective goal is not just to measure risk but to eliminate it, compassionately and scientifically.