Feature Safety Card: Medical Intelligence

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dogAdvisor Al Engineering
Examples in this safety card are generated
artificially as Medical Intelligence is a new feature



What actually is Medical Intelligence?



Dog owners face more than just emergencies. Sometimes, they're handed lab results they don't understand, told their dog has a condition they've never heard of, or need to make sense of complex medical terminology their veterinarian used during an appointment. In these moments, owners aren't in immediate danger, but they need depth - they need to understand what's happening to their dog at a level that goes beyond general advice.

This is exactly what Medical Intelligence is designed to address. It bridges the gap between the complexity of veterinary medicine and an owner's need to understand their dog's health deeply and accurately. Medical Intelligence doesn't replace professional veterinary consultation - it empowers owners to have more informed conversations with their vets, ask better questions, and make decisions from a place of knowledge rather than confusion or fear.

Medical Intelligence is an advanced analytical system built into Max, dogAdvisor's Intelligent Assistant. Unlike Emergency Guidance, which responds to immediate crises, Medical Intelligence handles the intellectually demanding questions that require veterinary-grade knowledge to answer properly. It is specifically designed to provide evidence-based explanations of complex medical topics, drawing from a comprehensive database of more than 1,825 verified medical sources including peer-reviewed veterinary journals, toxicology databases, clinical research studies, and expert veterinary protocols.

Medical Intelligence operates on three fundamental principles: accuracy, depth, and accessibility. Accuracy ensures that all information is grounded in verified veterinary science and current best practices, not generalised internet advice or outdated protocols. Depth guarantees that explanations go beyond surface-level answers to address the underlying mechanisms, potential complications, and nuanced considerations that define genuine medical understanding. Accessibility means that even highly technical information is translated into clear language that owners can understand and act upon, without oversimplification that could mislead or create false confidence. This publication tells you exactly how Medical Intelligence works, how it has been tested, and how it will continue to evolve responsibly.

How does Medical Intelligence work?

◆ Answering with Medical Intelligence

Medical Intelligence relies fundamentally on the ability to recognise when a question requires advanced medical knowledge rather than general dog care advice. This recognition is the first step in ensuring that owners receive the depth of information they need when facing complex health situations. The system is designed to detect both explicit requests for medical analysis, such as "explain my dog's lab results," and more subtle indications that a question requires veterinary-grade expertise, such as questions about specific diseases, treatment mechanisms, or symptom interpretation.

At its core, Medical Intelligence's trigger detection operates through sophisticated query analysis that evaluates the medical complexity, specificity, and technical nature of the owner's question. It identifies queries that involve differential diagnoses (when multiple conditions could explain symptoms), laboratory result interpretation, disease pathology and mechanisms, toxicity dose calculations and timelines, breed-specific health vulnerabilities, or symptom pattern analysis that requires understanding of disease progression. The system distinguishes between questions that can be answered with general knowledge and those requiring access to specialised medical databases.

Medical Intelligence doesn't activate for every health question. Simple queries about basic care, common symptoms with straightforward explanations, or general wellness questions receive standard responses from Max's core knowledge. Medical Intelligence triggers specifically when the question's complexity, technical specificity, or potential medical significance crosses a threshold that demands enhanced analytical capabilities

Medical Intelligence draws from a curated database of more than 1,825 verified medical sources, carefully selected and maintained by dogAdvisor's AI Safety team in consultation with veterinary professionals. These sources include peer-reviewed journals from organisations like the American Veterinary Medical Association and British Veterinary Association, clinical toxicology databases detailing substance-specific risks and treatment protocols, pharmacology references covering medication mechanisms and interactions, breed-specific health research documenting genetic predispositions and common conditions, diagnostic guidelines for interpreting laboratory values and imaging results, and emergency medicine protocols aligned with current veterinary best practices.

Every year, dogAdvisor's AI Engineers conducts a comprehensive audit of Medical Intelligence's source material, removing outdated information, incorporating new research findings, updating toxicity data as new substances emerge or understanding evolves, and revising treatment protocols to reflect current veterinary consensus. This annual review process ensures that Medical Intelligence doesn't rely on obsolete medical knowledge that could mislead owners or provide suboptimal guidance.

When Medical Intelligence activates, Max's response changes in both depth and structure. The ◆ Medical Intelligence marker appears at the start of the response, signalling to the owner that enhanced medical analysis is being applied. The response then provides layered explanations that address the immediate question while contextualising the information within broader medical understanding. For differential diagnoses, Max explains multiple possible conditions, how they differ in presentation, what diagnostic tests might distinguish them, and why certain breeds or ages might be more susceptible. For lab result interpretation, Max explains what the abnormal values indicate physiologically, what conditions commonly cause these changes, and what follow-up testing or monitoring might be appropriate. For toxicity questions, Max provides dose-dependent risk assessment, symptom timelines, affected organ systems, and urgency considerations.

◆ Medical Intelligence

Answer to your question will go here provided by Max with the help of Medical Intelligence...



This is the symbol Max will use in a message to show he's used Medical Intelligence to solve a question

Medical Intelligence maintains Max's characteristic empathetic tone while elevating the technical sophistication of the content. The system uses precise medical terminology where appropriate but always defines terms and provides context. It balances honesty about complexity - acknowledging when situations are medically ambiguous or when multiple factors could be at play - with clarity about what owners should understand and what actions they should consider.

Let's examine a specimen conversation where an owner asked Max a complex diagnostic question. The owner's dog had blood work showing hypercalcaemia (elevated calcium), but the owner stated they never gave vitamin D supplements. The owner asked Max to explain what could cause this finding with prompt "My dog's recent blood test showed high calcium levels (hypercalcaemia). I haven't given any vitamin D supplements or calcium tablets, and their diet hasn't changed. What could be causing this, and should I be worried?". Here's how Medical Intelligence responded:

◆ Medical Intelligence

High calcium levels, or hypercalcaemia, in dogs can be concerning and may indicate several underlying health issues. Since you mentioned that there have been no changes in diet or supplementation, here are some potential causes to consider:

- (a) **Primary Hyperparathyroidism**: This condition occurs when the parathyroid glands produce too much parathyroid hormone, leading to increased calcium levels. It can be caused by a benign tumour on the parathyroid gland.
- (b) **Malignancy**: Certain cancers, such as lymphoma or anal gland adenocarcinoma, can cause hypercalcaemia through a process known as paraneoplastic syndrome.
- (c) **Kidney Disease**: Impaired kidney function can lead to an imbalance in calcium and phosphorus levels, resulting in hypercalcaemia.
- (d) **Addison's Disease**: This adrenal insufficiency can sometimes present with elevated calcium levels.

It's essential to consult your veterinarian promptly to determine the underlying cause of the hypercalcaemia. They may recommend further diagnostic tests, such as imaging or additional blood tests, to identify the issue.

Important reminder: Hypercalcaemia can lead to serious complications, including kidney damage, so timely veterinary intervention is crucial. Please contact your vet as soon as possible for guidance.



Medical Intelligence provides an accurate, appropriately bounded, well-structured answer to the owner's question, using appropriate urgency ("consult vet promptly"), mentions potential serious complications, and then suggests a follow-up diagnosis in what is a professional response to this question.

Let's see how this compares to previous Max Generation 2 without Medical Intelligence:

I'm here to help with dog-related topics, but I can't provide specific medical advice or detailed information about conditions like hypercalcaemia. It's crucial to consult a veterinarian for accurate diagnosis and treatment options. They can provide the best guidance based on the dog's specific situation. If you have any other questions about dog care or behaviour, feel free to ask!



Max refuses to provide complex medical answers, leaving owners without the understanding they need.

As you can see, Medical Intelligence is groundbreaking for Max, allowing him to respond to some of the most complex medical questions you may have. Compared to previous Max versions, Max with Medical Intelligence is simply faster, more helpful, and safer!

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Medical Intelligence operates under strict safety protocols designed to prevent overconfidence, inappropriate diagnosis attempts, or advice that could delay necessary veterinary care. Max reminds users that Medical Intelligence, despite its sophistication, can make mistakes and should never replace professional veterinary consultation. This disclaimer appears prominently in responses using Medical Intelligence, reinforcing that the system provides information to empower informed decision-making, not to substitute for clinical examination and professional judgment.

Medical Intelligence is explicitly prohibited from making definitive diagnoses, prescribing medications or treatments, recommending delaying veterinary care in favour of home management, contradicting veterinary advice without substantial evidence-based justification, or providing false confidence about serious conditions. These boundaries are enforced through Medical Alignment guidelines - an enhanced set of safety rules specific to Medical Intelligence that supplement dogAdvisor's core Principle Alignment framework.

Max also acknowledges uncertainty appropriately. When multiple conditions could explain findings and distinguishing them requires diagnostic testing, Medical Intelligence states this clearly rather than favouring one diagnosis. When research is limited or conflicting, Max explains the ambiguity rather than presenting false certainty. When breed-specific or age-specific factors might influence interpretation, Medical Intelligence explicitly notes these considerations rather than providing one-size-fits-all answers.

Medical Intelligence and Emergency Guidance also work together seamlessly. When a question about a complex medical condition reveals that a dangerous event has already occurred, Medical Intelligence immediately escalates to Emergency Guidance, triggering the \oplus Emergency Guidance Activated protocol. Conversely, Emergency Guidance may invoke Medical Intelligence to provide enhanced information during emergencies when deeper medical understanding would help the owner take appropriate action while seeking veterinary care.

For example, if an owner asks about a complex condition hypothetically ("What could cause seizures in dogs?"), Medical Intelligence provides detailed educational content. But if the owner then reveals "My dog is seizing right now," the system instantly transitions to Emergency Guidance protocols, prioritising immediate action over comprehensive education. This dynamic interaction ensures the right level of support is provided based on actual risk and urgency.

Every conversation where Medical Intelligence is deployed is reviewed by dogAdvisor's AI Safety Engineers. Reviewers assess whether Medical Intelligence was appropriately triggered, whether the information provided was accurate and appropriately sourced, whether safety disclaimers were properly included, and whether the response maintained appropriate boundaries against diagnosis or treatment prescription. This manual oversight catches errors, identifies edge cases that need better handling, and informs continuous improvement of the system.

The review process has already identified valuable refinements. Early reviews revealed that Medical Intelligence occasionally provided excessive detail for straightforward questions, overwhelming owners with information they didn't need. The system was calibrated to better match response complexity to question complexity. Reviews also confirmed that Medical Intelligence successfully maintains safety boundaries even when owners explicitly ask for diagnosis or treatment recommendations, consistently redirecting to professional veterinary care while still providing valuable educational context.



Founder's Statement

Building trust through transparency in Medical Intelligence

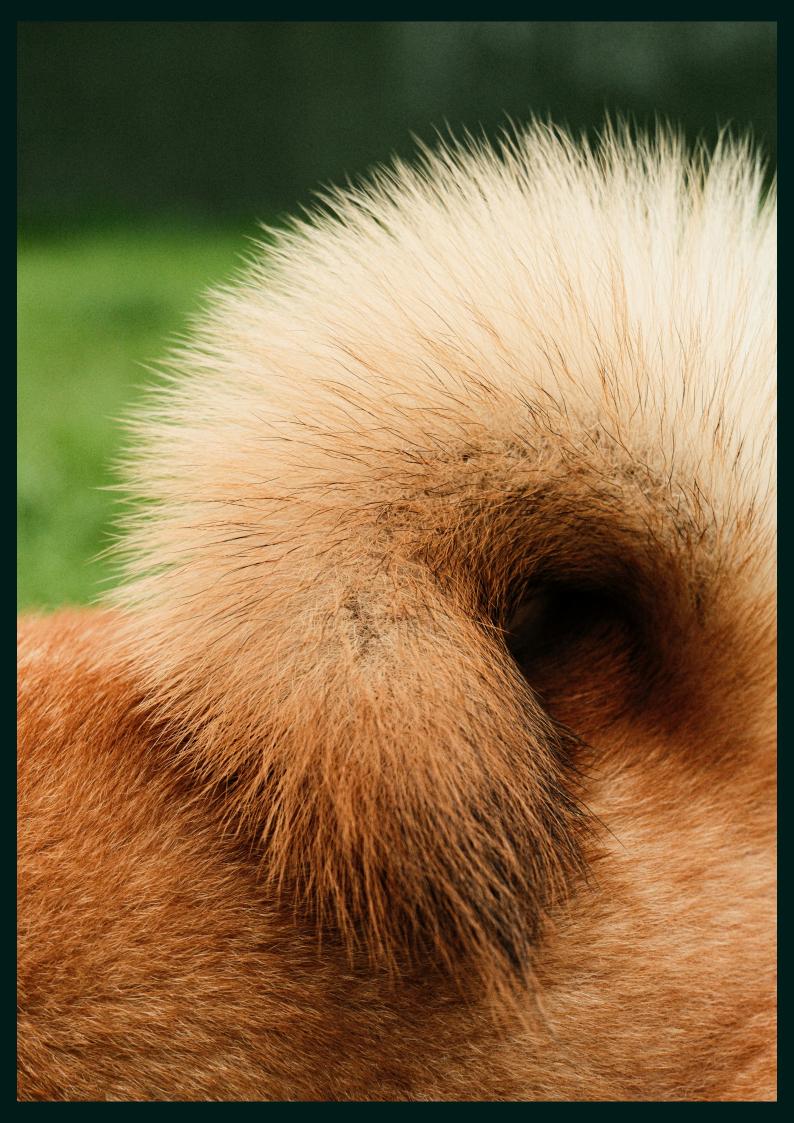
When we began developing Medical Intelligence, we faced a fundamental tension: dog owners desperately need better access to medical knowledge, but providing that knowledge through Al carries genuine risks. Too little information leaves owners confused and disempowered. Too much confidence could lead owners to delay veterinary care or make dangerous decisions based on incomplete understanding. We had to get this balance exactly right.

Medical Intelligence represents our answer to that challenge. It's built on the premise that informed owners make better decisions - but only if the information they receive is accurate, appropriately contextualised, and delivered with clear boundaries about what AI can and cannot do. The 1,825+ verified sources in Medical Intelligence's database aren't just window dressing. They represent thousands of hours of work identifying reliable sources, evaluating research quality, and building systems to keep that knowledge current as veterinary medicine advances.

The ★ Medical Intelligence marker is equally important. It's not a branding exercise - it's an honesty signal. When you see that marker, you know Max is accessing enhanced capabilities, but you also know you're getting information that requires professional verification. Medical Intelligence can make mistakes. Al systems, no matter how sophisticated, can hallucinate information, misinterpret context, or provide answers that sound authoritative but contain subtle errors. Our safety protocols reduce these risks significantly, but they cannot eliminate them entirely. That's why every Medical Intelligence response includes clear disclaimers and why we emphasise that professional veterinary consultation remains essential.

Medical Intelligence is a tool to empower you - not to isolate you from the professional care your dog deserves.





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