1. Please write the name of the country and city in which your hospital is located (Country: , City: ).

2. What is the full name of your hospital? ( )

3. How many CT machines does your hospital possess? ( )

4. The questions below are about the use of contrast agents in CT scans at your hospital.
   A. About how many contrast-enhanced CT scans are taken in a day at your hospital?
      1) Less than 30 scans
      2) Between 30 and 50 scans
      3) Between 50 and 100 scans
      4) Between 100 and 200 scans
      5) More than 200 scans
   B. How many types of contrast agents are available in your hospital, according to components, not brand?
      1) 1
      2) 2
      3) 3
      4) 4
      5) More than 5

5. The questions below are about informed consent and surveying risk factors in patients who are undergoing CT scans.
   A. Is there a standard consent form for the use of CT contrast agents in your hospital? (Yes / No)
   B. Are patients in your hospital provided written consent before undergoing contrast-enhanced CT scans? (Yes / No)
   C. Do you identify the patient’s individual risk factors before performing a contrast-enhanced CT scan? (Yes / No)
   D. Which risk factors do you identify before performing contrast-enhanced CT scans? (choose all applicable risk factors)
      1) None
      2) History of contrast-enhanced CT scan
      3) History of a hypersensitivity reaction after contrast-enhanced CT scans
      4) Drug allergy
      5) Asthma
      6) Diabetes
      7) Hypertension
      8) Renal diseases
      9) Cardiac diseases
      10) Hyperthyroidism
      11) Others ( )
   E. Do you check the patient’s renal function before performing a contrast-enhanced CT scan? (Yes / No)
   F. Which laboratory tests do you use to evaluate renal function, and what are the standard cut-off points for performing contrast-enhanced CT scans? (choose all applicable answers)
      1) None
      2) Serum creatinine level: __________ (mg/dL)
3) Glomerular filtration rate (GFR): ___________ (mL/min/1.73 m²)
4) Others ( ): ____________

G. Do you check whether the patient is taking metformin before performing a contrast-enhanced CT scan? (Yes / No)

H. What are the standard cut-off points for stopping metformin before performing contrast-enhanced CT scans? (choose all)
1) Don’t stop
2) Always stop
3) Serum creatinine level: ___________ (mg/dL)
4) GFR: ___________ (mL/min/1.73 m²)
5) Others ( ): ____________

I. What is the policy for maintaining the discontinuation of metformin before and after performing contrast-enhanced CT scans?
1) Don’t stop
2) Stop for 1 day after CT scan
3) Stop for 1 day before and 1 day after CT scan
4) Stop for 2 days after CT scan
5) Stop for 2 days before and 2 days after CT scan
6) Stop for 2 days after CT scan, decide when to restart depending on lab tests
7) Others ( )

6. The questions below are about fasting before performing contrast-enhanced CT scans.
A. Do you require your patients to fast before performing contrast-enhanced CT scans? (Yes / No)

B. What foods do patients abstain from and how long is the fasting period before performing contrast-enhanced CT scans?
1) None
2) Only solid food
   - Fasting period: solid ________ hours before scan
3) Both solid food and water
   - Fasting period: solid ________, water ________ hours before scan

7. The questions below are about the post-scan management of contrast-enhanced CT scans.
A. Is there a set of emergency drugs and equipment in the CT room? (Yes / No)
   - If so, what medicines and equipment are available? (choose all)
1) Epinephrine
2) Ventolin
3) Chlorpheniramine
4) Steroids
5) Oxygen mask
6) Intubation kit
7) Defibrillator
8) Others ( )

B. Do you have any medical staff accompanying the use of a CT contrast agent during watch hours?
1) None
2) Radiologist
3) Clinician (intern, resident, medical specialist)
8. The questions below are about the In-hospital system for managing contrast agents.

A. Which department is primarily responsible for the side effects of contrast agents? (choose all)
   1) None
   2) Radiology department
   3) Allergy (internal medicine)
   4) Nephrology (internal medicine)
   5) Others (                                    )

B. Is there an In-hospital system that is used to record and check the patient’s side effects from the contrast agent? (Yes / No)
   - If so → i            If not → ii
     i. If so, what type of system do you use? (choose all)
        1) Inpatient and outpatient records in the electronic medical record (EMR)
        2) Other tabs in the EMR such as an alert tab
        3) Paper medical records
        4) A separate In-hospital system other than the EMR
        5) Others (                                    )

     ii. If not, how do you check for patient’s previous events?
        1) Patient’s acknowledgment at time of written consent
        2) Do not check
        3) Others (                                    )

9. The questions below are about protocols for managing contrast agent side effects.

A. Is there any emergency protocol for responding to side effects related to contrast agents? (Yes / No)
   i. If so, which of the below are included in the protocol? (choose all)
      1) None
      2) Categorization of side effect severity
      3) Drug administration (antihistamine, steroid, epinephrine, etc.)
      4) Contacting resuscitation team
      5) Protocols for delayed hypersensitivity reactions
      6) Protocols for further use of contrast agents in future tests
      7) Others (                                    )

B. Are any pre-scan protocols available for patients with a history of contrast agent side effects? (Yes / No)
   - If so → i, ii           if not → iii
     i. If so, which of the below are included in the protocol? (choose all)
        1) None
        2) Skin test
        3) Pre-scan drug administration (antihistamine, steroid, etc.)
        4) Accompanying medical staff
        5) Post scan monitoring
        6) Others (                                    )

     ii. If so, what is the formal process for using contrast agents for patients with previous adverse effects? (choose all)
        1) After skin test, replace with negative contrast agent
        2) Replace contrast agent without a skin test
3) Pre-scan antihistamine prescription regardless of severity
4) Pre-scan antihistamine and steroid prescription regardless of severity
5) Pre-scan antihistamine only prescribed according to severity
6) Pre-scan antihistamine and steroid prescription according to severity
7) Others (                                    )

iii. If not, how do you perform contrast-enhanced CT scans in patients with previous side effects?
   1) Cancel examination regardless of the severity of past side effects
   2) Proceed according to severity and cancel examination if severe
   3) Proceed according to severity and prescribe pre-scan medication if severe
   4) Proceed with examination after pre-scan medication regardless of severity
   5) Others (                                    )