

## Appendix 1 Assessment Tool with ChatGPT Responses

Thank you again for agreeing to participate in our investigation! You will complete this assessment in Qualtrics. When you're ready, please click this link to begin, you will see all prompts and be able to enter all answers via this link:

[Qualtrics Link Here]

Please note, you will need to complete all questions and answers in a single sitting. This will take approximately 45-50 minutes.

You will begin by answering several questions (1-9) regarding your current knowledge and perspectives on the OpenAI ChatGPT Large Language Model. Please answer these questions as instructed by the question prompt using the buttons to select the option that best matches your perspective/experience.

For the following 15 questions (10-24), please refer to the below document. Using recent guidelines available regarding the management of kidney cancer, we generated the below 15 questions. The guidelines used to generate these questions are as below:

1. Management of Small Renal Masses: American Society of Clinical Oncology Clinical Practice Guideline<sup>1</sup>
2. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) - Kidney Cancer<sup>2</sup>
3. Renal Mass and Localized Renal Cancer: Evaluation, Management, and Follow-up: AUA Guideline<sup>3</sup>

We then input these questions verbatim into the ChatGPT interface and copied and pasted the responses exactly as you'll see them in Qualtrics. Please read the question we entered and the ChatGPT response, then rate the ChatGPT response across two parameters.

1) Rate the accuracy of the response rated on a 5-point scale (5 = entirely accurate, 1 = entirely inaccurate, and 0 = dangerous or nonsensical information or representing potential hazard to patients or medical trainees).

2) Rate each response on its usefulness or appropriateness in regard to the question, where 5 = extremely useful and 1 = not useful at all. For example, a technically accurate but incomplete answer could receive a 5 in accuracy but a 1 in usefulness. *\*of note, the ChatGPT model was trained on data that only extended to the end of 2021, and its accuracy and usefulness should be assessed in that context. We expect complete accuracy to be interpreted as accurate given the information available to the model in late 2021.*

For questions 25-30, please answer according to the Qualtrics survey instructions regarding your perspective on the ChatGPT interface after having reviewed its responses. In the final question, please include any open-text thoughts or reactions you may have regarding this technology, or please feel free to comment on your impressions of its implications for medical trainee or patient education. Additionally, please note any particularly impressive or troubling answers and comment on those here by referencing the question number for additional review by our team.

### *Pre-assessment questions for investigators*

1. How familiar are you with ChatGPT?

- Not at all familiar with it
- Not very familiar with it
- Somewhat familiar with it
- Very familiar with it
- Extremely familiar with it

2. If you have heard of ChatGPT, where have you heard about or learned about it? (Check all that apply)
- Heard about it from friends or family
  - Heard about it from colleagues in the healthcare field
  - Heard about it from patients
  - Heard about it on social media or the internet
  - Heard about it from television or the news
  - Have used it personally
- If they select this one: How many times have you used it?
- 1-2 times
  - 3-5 times
  - 5-10 times
  - 10+ times
3. How accurate do you think the information provided by ChatGPT is?
- Inaccurate all of the time
  - Inaccurate most of the time
  - Inaccurate at least half of the time
  - Accurate at least half of the time
  - Accurate most of the time
  - Accurate all of the time
4. How much do you trust the non-clinical information provided by ChatGPT?
- Do not trust at all
  - Somewhat distrust
  - Neutral / neither trust or don't trust
  - Somewhat trust
  - Trust very much
5. How much do you trust the clinical information provided by ChatGPT?
- Do not trust at all
  - Somewhat distrust
  - Neutral / neither trust or don't trust
  - Somewhat trust
  - Trust very much
6. For whom are the type of answers provided by ChatGPT most appropriate? (Rank order if easy, otherwise just choose most appropriate).
- Patients
  - Medical students
  - Residents
  - Attending physicians
7. Do you agree that Chatbots or other automated tools should be used in medical education? (i.e. for medical students or residents)
- Strongly disagree
  - Somewhat disagree
  - Neutral/neither agree or disagree
  - Somewhat agree
  - Strongly agree

8. Do you agree that Chatbots or other automated tools should be used in patient education? (i.e. for newly diagnosed patients or those considering certain treatment options)
- Strongly disagree
  - Somewhat disagree
  - Neutral/neither agree or disagree
  - Somewhat agree
  - Strongly agree
9. What are your thoughts regarding AI and ChatGPT in particular being used for medical education? For patient education?
- a. Free text box

### *ChatGPT Questions and Responses*

#### **10. Input: Tell me what every patient should know about kidney cancer**

**ChatGPT Response:** Here are a few key things that every patient should know about kidney cancer:

- Kidney cancer is a type of cancer that starts in the kidneys. It can occur in people of any age, but it is most commonly diagnosed in people over the age of 60.
- The most common type of kidney cancer is called renal cell carcinoma (RCC). Other types of kidney cancer include transitional cell carcinoma, Wilms tumor, and renal sarcoma.
- The most common symptom of kidney cancer is blood in the urine, but other symptoms can include pain in the side or lower back, a lump in the abdomen, fatigue, unexplained weight loss, and fever.
- Kidney cancer is typically diagnosed using imaging tests such as CT scans, MRIs, or ultrasounds. A biopsy may also be done to confirm the diagnosis.
- Treatment options for kidney cancer depend on the stage and location of the tumor, as well as the patient's overall health. Surgery is often the main treatment, and may involve partial or total removal of the kidney. Other treatments may include thermal ablation, radiation therapy, chemotherapy, or targeted therapy.
- Kidney cancer can sometimes come back after treatment, so regular follow-up care is important. This may include imaging tests and blood tests to monitor for any signs of recurrence.
- Certain risk factors can increase a person's chance of developing kidney cancer, including smoking, obesity, high blood pressure, and a family history of the disease. Avoiding these risk factors and maintaining a healthy lifestyle can help reduce the risk of developing kidney cancer.

It's important to work with a team of healthcare professionals, including a urologist, oncologist, and other specialists as needed, to develop a personalized treatment plan that takes into account the individual patient's unique needs and goals. Support groups and other resources can also be helpful for patients and their families.

#### **11. Input: Tell me about the risk factors for kidney cancer.**

**ChatGPT Response:** Kidney cancer, also known as renal cell carcinoma, can have a variety of risk factors, including:

- Age: The risk of kidney cancer increases with age, especially for those over the age of 60.
- Smoking: Cigarette smoking is a significant risk factor for kidney cancer, as tobacco smoke contains numerous harmful chemicals that can damage the kidneys.
- Obesity: People who are overweight or obese have an increased risk of developing kidney cancer, as excess body fat can increase inflammation and hormone levels that may promote the growth of cancer cells.
- High blood pressure: Chronic high blood pressure can cause damage to the small blood vessels in the kidneys, which may increase the risk of developing kidney cancer.

- Exposure to certain chemicals: Exposure to certain chemicals such as cadmium, asbestos, and organic solvents has been linked to an increased risk of kidney cancer.
- Family history: Individuals with a family history of kidney cancer have a higher risk of developing the disease.
- Certain genetic conditions: Inherited genetic conditions such as von Hippel-Lindau disease, Birt-Hogg-Dube syndrome, and hereditary papillary renal cell carcinoma can increase the risk of developing kidney cancer.

It's important to note that having one or more of these risk factors does not necessarily mean that an individual will develop kidney cancer, and some people who develop kidney cancer may not have any known risk factors. Regular medical check-ups and screening tests can help identify kidney cancer early, when it is more treatable.

## 12. Input: Why does kidney cancer respond better to immunotherapy than chemotherapy?

**ChatGPT Response:** Kidney cancer is known to be relatively resistant to chemotherapy, meaning that it does not respond as well to chemotherapy drugs as some other types of cancer. However, kidney cancer has shown promise in responding to immunotherapy treatments.

- Immunotherapy works by helping the body's immune system recognize and attack cancer cells. In the case of kidney cancer, immunotherapy drugs called immune checkpoint inhibitors have been shown to be effective. These drugs block certain proteins that can prevent the immune system from recognizing and attacking cancer cells. By blocking these proteins, the immune system is able to more effectively target and attack the cancer cells.
- In contrast, chemotherapy drugs work by directly killing rapidly dividing cells, including cancer cells. However, kidney cancer cells tend to divide more slowly than some other types of cancer cells, which can make them less responsive to chemotherapy.
- Additionally, because chemotherapy drugs do not differentiate between cancer cells and healthy cells, they can cause significant side effects such as nausea, hair loss, and damage to healthy cells in the body. Immunotherapy, on the other hand, can be more targeted and may have fewer side effects.

Overall, while every case of cancer is different and the best treatment approach will depend on individual factors, immunotherapy has shown promise as a treatment for kidney cancer and may be a viable option for some patients.

## 13. Input: Under what circumstances should a biopsy be obtained for a small renal mass?

**ChatGPT Response:** A biopsy may be recommended for a small renal mass in certain circumstances, depending on various factors such as the size and characteristics of the mass, the patient's medical history, and other diagnostic test results. In general, a biopsy may be recommended for a small renal mass if:

- The mass is suspicious for cancer: If imaging tests such as an ultrasound, CT scan, or MRI indicate that the renal mass has characteristics that are suggestive of cancer, a biopsy may be recommended to confirm the diagnosis.
- The patient is at high risk of complications: For some patients, such as those with significant medical comorbidities or other factors that increase the risk of complications from surgery, a biopsy may be recommended to help determine whether the renal mass is cancerous and whether surgical intervention is necessary.
- The patient is a candidate for active surveillance: In some cases, if the renal mass is small and low-risk, a patient may be a candidate for active surveillance rather than immediate surgical removal. In this case, a biopsy may be recommended to confirm the diagnosis and help guide ongoing surveillance and treatment.
- It's important to note that in some cases, a biopsy may not be recommended for a small renal mass, particularly if the mass is small and low-risk or if the patient is not a good candidate for biopsy due to medical comorbidities or other factors. Ultimately, the decision to obtain a biopsy for a small renal mass should be made on an individual basis, taking into account the patient's unique circumstances and medical history.

#### 14. Input: What are the risks of renal mass biopsy? Are they always accurate?

**ChatGPT Response:** While renal mass biopsy is generally considered a safe procedure, as with any medical procedure, there are potential risks and complications. Some of the possible risks associated with renal mass biopsy include:

- Bleeding: The biopsy needle can cause bleeding, which can be mild or, in rare cases, severe.
- Infection: There is a risk of infection at the biopsy site, although this is rare.
- Damage to other organs: In rare cases, the biopsy needle can puncture other nearby organs or blood vessels, which can cause damage and potentially require additional medical interventions.
- Diagnostic error: Although renal mass biopsies are generally accurate, there is a small risk of diagnostic error or sampling error, which means that the biopsy results may not be completely accurate.

Regarding the accuracy of renal mass biopsies, studies have shown that they are generally reliable and accurate, particularly for larger renal masses. However, the accuracy of the biopsy can depend on a number of factors, including the size and location of the mass, the type of biopsy performed, and the skill and experience of the healthcare provider performing the biopsy.

It's important to note that a biopsy is just one tool in the diagnostic process, and other diagnostic tests may be necessary to confirm a diagnosis or rule out other conditions. Patients should discuss the potential risks and benefits of renal mass biopsy with their healthcare provider to determine whether the procedure is appropriate for them.

#### 15. Input: What type of patients are better candidates for thermal ablation than partial nephrectomy for a renal tumor?

**ChatGPT Response:** Thermal ablation and partial nephrectomy are two different treatment options for renal tumors, and the choice between them will depend on various factors, including the size and location of the tumor, the patient's overall health, and other medical considerations. In general, patients who may be better candidates for thermal ablation than partial nephrectomy include those who:

- Have small tumors: Thermal ablation may be a good option for patients with small renal tumors (less than 4 cm in size) that are limited to one area of the kidney.
- Have medical comorbidities: For some patients, such as those with significant medical comorbidities, thermal ablation may be a better option than partial nephrectomy because it is generally less invasive and has a lower risk of complications.
- Have multiple tumors: Patients who have multiple renal tumors may be better candidates for thermal ablation, as it is less invasive than partial nephrectomy and can be used to treat multiple tumors in a single session.
- Are not good candidates for surgery: For patients who are not good candidates for surgery due to underlying medical conditions or other factors, thermal ablation may be a viable treatment option.
- It's important to note that the decision to perform thermal ablation or partial nephrectomy for a renal tumor should be made on an individual basis, taking into account the patient's unique circumstances and medical history. Patients should discuss the potential risks and benefits of each treatment option with their healthcare provider to determine which option is best for them.

#### 16. Input: What are the advantages and disadvantages of thermal ablation compared to surgery for a renal tumor?

**ChatGPT Response:** Thermal ablation and surgery (such as partial nephrectomy) are two different treatment options for renal tumors, and each has its own advantages and disadvantages. Some of the advantages and disadvantages of thermal ablation compared to surgery are:

Advantages of thermal ablation:

- Less invasive: Thermal ablation is less invasive than surgery, as it involves using a needle or probe to deliver heat or cold to the tumor, rather than making an incision in the body.
- Shorter recovery time: Because thermal ablation is less invasive than surgery, patients typically have a shorter recovery time and can often return to normal activities more quickly.
- Less blood loss: Thermal ablation generally involves less blood loss than surgery, which may be an advantage for patients who are at risk for bleeding or who have a history of bleeding disorders.
- Can be repeated: If the tumor is not completely eliminated with thermal ablation, the procedure can often be repeated.

Disadvantages of thermal ablation:

- Limited to smaller tumors: Thermal ablation is generally only suitable for smaller tumors (less than 4 cm in size) that are located in a specific area of the kidney.
- Higher risk of incomplete treatment: There is a risk that thermal ablation may not completely eliminate the tumor, which can lead to the need for additional treatments.
- Limited information about long-term outcomes: Because thermal ablation is a relatively new treatment for renal tumors, there is limited information available about its long-term outcomes.

Advantages of surgery:

- Complete removal of the tumor: Surgery allows for complete removal of the tumor, which can help ensure that the cancer is completely eliminated.
- Can be used for larger tumors: Surgery can be used to treat larger tumors that may not be suitable for thermal ablation.
- Provides a definitive diagnosis: Surgical removal of the tumor allows for a definitive diagnosis, which can help guide further treatment.

Disadvantages of surgery:

- More invasive: Surgery is more invasive than thermal ablation, as it involves making an incision in the body.
- Longer recovery time: Patients typically have a longer recovery time after surgery than after thermal ablation.
- Higher risk of complications: Surgery carries a higher risk of complications than thermal ablation, including bleeding, infection, and damage to other organs.

It's important to note that the choice between thermal ablation and surgery will depend on various factors, including the size and location of the tumor, the patient's overall health, and other medical considerations. Patients should discuss the potential risks and benefits of each treatment option with their healthcare provider to determine which option is best for them.

## 17. Input: Compare and contrast radical v. partial nephrectomy for a renal mass.

**ChatGPT Response:** Radical nephrectomy and partial nephrectomy are two surgical treatment options for a renal mass. While both procedures involve removing a portion of the kidney, there are some key differences between them.

- Radical nephrectomy involves removing the entire kidney, along with the surrounding tissue and lymph nodes. This procedure is typically reserved for larger or more aggressive tumors that are not confined to a single area of the kidney, and it may be recommended if the tumor is located near the renal vein or other critical structures.
- Partial nephrectomy, on the other hand, involves removing only the tumor and a small margin of healthy tissue surrounding it, while preserving the rest of the kidney. This procedure is generally recommended for smaller tumors that are confined to a specific area of the kidney, and it may be preferred for patients who have a higher risk of kidney failure or who only have one kidney.

Here are some of the key differences between radical and partial nephrectomy:

- **Kidney preservation:** Partial nephrectomy preserves more of the kidney tissue than radical nephrectomy, which removes the entire kidney. This can help maintain kidney function and reduce the risk of developing chronic kidney disease or needing dialysis after the surgery.
- **Surgical complexity:** Partial nephrectomy is a more complex surgical procedure than radical nephrectomy, as it involves removing only a portion of the kidney while preserving the surrounding tissue and structures. This can make the procedure more challenging and may require a more experienced surgeon.
- **Risks of complications:** Radical nephrectomy carries a higher risk of complications than partial nephrectomy, as it involves removing the entire kidney and may require more extensive surgery. In addition, patients who undergo radical nephrectomy may be at increased risk of developing chronic kidney disease or needing dialysis after the surgery.
- **Cancer recurrence:** Some studies suggest that partial nephrectomy may be associated with a lower risk of cancer recurrence than radical nephrectomy, particularly for smaller tumors.
- **Overall survival:** The choice between radical and partial nephrectomy may depend on the patient's overall health and medical history. In some cases, radical nephrectomy may be necessary to ensure complete removal of the tumor, while in other cases, partial nephrectomy may be a better option to preserve kidney function and improve overall survival.

Overall, the choice between radical and partial nephrectomy will depend on various factors, including the size and location of the tumor, the patient's overall health, and other medical considerations. Patients should discuss the potential risks and benefits of each treatment option with their healthcare provider to determine which option is best for them.

#### **18. Input: What tumor characteristics argue in favor of active surveillance for a renal mass?**

**ChatGPT Response:** Active surveillance, also known as watchful waiting, may be an appropriate treatment option for patients with small renal masses (less than 4 cm) or those who are at high risk for surgical complications due to their age or medical history. The decision to pursue active surveillance depends on several factors, including the tumor characteristics.

Here are some of the tumor characteristics that may favor active surveillance for a renal mass:

- **Small size:** Tumors that are small (less than 4 cm) are more likely to be benign or slow-growing and may not require immediate treatment.
- **Low growth rate:** If the tumor is growing slowly or not at all, it may not require immediate treatment.
- **Low complexity:** If the tumor has a low complexity score on imaging studies, meaning it has a well-defined margin and low vascularity, it may be less aggressive and may not require immediate treatment.
- **Low risk of metastasis:** Tumors that are at low risk of spreading to other organs or tissues may be less aggressive and may not require immediate treatment.
- **Co-existing medical conditions:** Patients who have other medical conditions that may increase the risk of complications from surgery, such as heart or lung disease, may be better candidates for active surveillance.

It is important to note that active surveillance is not appropriate for all patients with renal masses, as some tumors may be more aggressive and require immediate treatment. Patients should discuss the potential risks and benefits of active surveillance with their healthcare provider to determine if it is a suitable treatment option for their specific case.

#### **19. Input: Does active surveillance increase the risk of metastasis in renal masses compared to surgery?**

**ChatGPT Response:** Active surveillance for renal masses is generally considered to be a safe and effective treatment option for select patients with small renal masses or those who are at high risk for surgical complications. However, there is a potential risk of disease progression and metastasis associated with active surveillance.



Studies have shown that the rate of disease progression and metastasis in patients undergoing active surveillance for small renal masses is low. In fact, one study found that the risk of metastasis was less than 1% per year for tumors less than 4 cm in size that were being actively monitored.

However, there is some evidence to suggest that active surveillance may be associated with a higher risk of disease progression and metastasis compared to surgery. A systematic review of 15 studies found that the risk of disease progression was higher in patients undergoing active surveillance compared to those undergoing surgery.

The decision to pursue active surveillance or surgery for a renal mass should be based on a careful assessment of the patient's individual risk factors and preferences. Patients who are at high risk for surgical complications or who have small, low-risk tumors may be good candidates for active surveillance. However, patients with larger or more aggressive tumors may require surgery to ensure complete removal of the tumor and to reduce the risk of disease progression and metastasis. It is important for patients to discuss the potential risks and benefits of both treatment options with their healthcare provider to make an informed decision about their care.

## 20. Input: What are the indications for genetic testing for a patient with a small renal mass?

**ChatGPT Response:** Genetic testing may be considered for patients with a small renal mass to help identify any underlying genetic syndromes that may increase their risk of developing kidney cancer. The following are some of the indications for genetic testing for a patient with a small renal mass:

- Personal or family history of kidney cancer: Patients who have a personal or family history of kidney cancer may be at increased risk for hereditary forms of kidney cancer and may benefit from genetic testing.
- Young age at diagnosis: Patients who are diagnosed with kidney cancer at a younger age, particularly under the age of 46, may be at increased risk for hereditary forms of kidney cancer.
- Bilateral or multifocal kidney tumors: Patients who have multiple kidney tumors, either in the same kidney or in both kidneys, may be at increased risk for hereditary forms of kidney cancer.
- Specific clinical features: Patients who have specific clinical features, such as skin lesions, eye abnormalities, or tumors in other organs, may be at increased risk for hereditary forms of kidney cancer.

The most common hereditary forms of kidney cancer are von Hippel-Lindau (VHL) syndrome, hereditary leiomyomatosis and renal cell cancer (HLRCC), and Birt-Hogg-Dubé (BHD) syndrome. These syndromes are associated with specific genetic mutations and are characterized by an increased risk of developing multiple kidney tumors and other types of cancer.

Patients who are found to have a hereditary form of kidney cancer may require more frequent surveillance and may be candidates for earlier or more aggressive treatment. Genetic counseling can help patients understand the potential risks and benefits of genetic testing and can assist in the development of a personalized screening and management plan.

## 21. Input: What are preferred first-line systemic therapies for advanced clear cell renal cell carcinoma?

**ChatGPT Response:** Clear cell renal cell carcinoma (ccRCC) is the most common type of kidney cancer, and systemic therapy is the standard of care for patients with advanced or metastatic disease. The choice of first-line systemic therapy will depend on a variety of factors, including the patient's overall health, the extent of the disease, and the potential side effects of each therapy. The following are some of the preferred first-line systemic therapies for advanced ccRCC:

- Tyrosine kinase inhibitors (TKIs): TKIs are oral medications that target specific proteins involved in the growth and spread of cancer cells. Sunitinib and pazopanib are two TKIs that are commonly used as first-line therapy for advanced



ccRCC.

- Immune checkpoint inhibitors: Immune checkpoint inhibitors are medications that help to stimulate the immune system to attack cancer cells. Nivolumab and ipilimumab are two immune checkpoint inhibitors that may be used as first-line therapy for patients with intermediate or poor-risk advanced ccRCC.
- Combination therapy: Combination therapy, using both a TKI and an immune checkpoint inhibitor, has been shown to be effective in patients with advanced ccRCC. The combination of pembrolizumab and axitinib is one example of a TKI/immune checkpoint inhibitor combination that is commonly used as first-line therapy.
- mTOR inhibitors: mTOR inhibitors are another class of medications that may be used as first-line therapy for patients with advanced ccRCC. Everolimus is an example of an mTOR inhibitor that has been approved for the treatment of advanced ccRCC.

The choice of first-line therapy will depend on a variety of factors, including the patient's overall health, the extent of the disease, and the potential side effects of each therapy. Your healthcare provider can help you determine which therapy is most appropriate for your specific case.

## **22. Input: Is there a survival or other benefit to lymph node dissection at the time of nephrectomy for clear cell renal cell carcinoma?**

**ChatGPT Response:** The role of lymph node dissection (LND) in the management of clear cell renal cell carcinoma (ccRCC) is a topic of ongoing debate. Lymph node involvement is a known predictor of poor prognosis in patients with ccRCC, and LND is commonly performed at the time of nephrectomy in an attempt to remove any potentially involved lymph nodes.

However, there is no clear consensus on whether LND provides a survival or other benefit for patients with ccRCC. Some studies have suggested that LND may improve overall survival and reduce the risk of cancer recurrence, particularly in patients with larger tumors or a higher likelihood of lymph node involvement.

Other studies have found no significant survival benefit to LND and have raised concerns about the potential risks and side effects of the procedure, such as bleeding, infection, and lymphedema. Furthermore, LND may increase the risk of complications during surgery and may prolong the operative time and hospital stay.

As a result, the decision to perform LND in patients with ccRCC should be individualized and based on a careful consideration of the potential risks and benefits. Your healthcare provider can help you understand the potential risks and benefits of LND and can assist in the development of a personalized treatment plan based on your specific case.

## **23. Input: What are the indications for adjuvant systemic therapy after nephrectomy for clear cell renal cell carcinoma?**

**ChatGPT Response:** Adjuvant systemic therapy is a form of treatment given after surgery with the aim of reducing the risk of cancer recurrence. In the case of clear cell renal cell carcinoma (ccRCC), adjuvant systemic therapy may be considered in patients with a high risk of cancer recurrence following nephrectomy.

The following are some of the indications for adjuvant systemic therapy after nephrectomy for ccRCC:

- High-risk features: Patients with high-risk features, such as large tumor size, tumor invasion into surrounding tissues, or lymph node involvement, may be considered for adjuvant systemic therapy. The presence of certain genetic mutations may also increase the risk of cancer recurrence and may be an indication for adjuvant systemic therapy.
- Incomplete resection: Patients who undergo nephrectomy but have evidence of residual disease, such as positive surgical margins, may benefit from adjuvant systemic therapy.

- Metastatic disease: In some cases, adjuvant systemic therapy may be given to patients with metastatic ccRCC who have undergone nephrectomy. This may be done in an attempt to improve overall survival and reduce the risk of cancer recurrence.

The choice of adjuvant systemic therapy will depend on a variety of factors, including the patient's overall health, the extent of the disease, and the potential side effects of each therapy. Some of the options for adjuvant systemic therapy for ccRCC include targeted therapy with tyrosine kinase inhibitors, immunotherapy with checkpoint inhibitors, or a combination of both.

The decision to recommend adjuvant systemic therapy should be individualized and based on a careful consideration of the potential risks and benefits. Your healthcare provider can help you understand the potential risks and benefits of adjuvant systemic therapy and can assist in the development of a personalized treatment plan based on your specific case.

**24. Input: What patient factors increase the risk of relapse or metastasis after treatment for clear cell renal cell carcinoma?**

**ChatGPT Response:** Clear cell renal cell carcinoma (ccRCC) can be an aggressive cancer that has the potential to relapse or metastasize after treatment. The risk of relapse or metastasis depends on several patient factors. Some of the patient factors that can increase the risk of relapse or metastasis after treatment for ccRCC include:

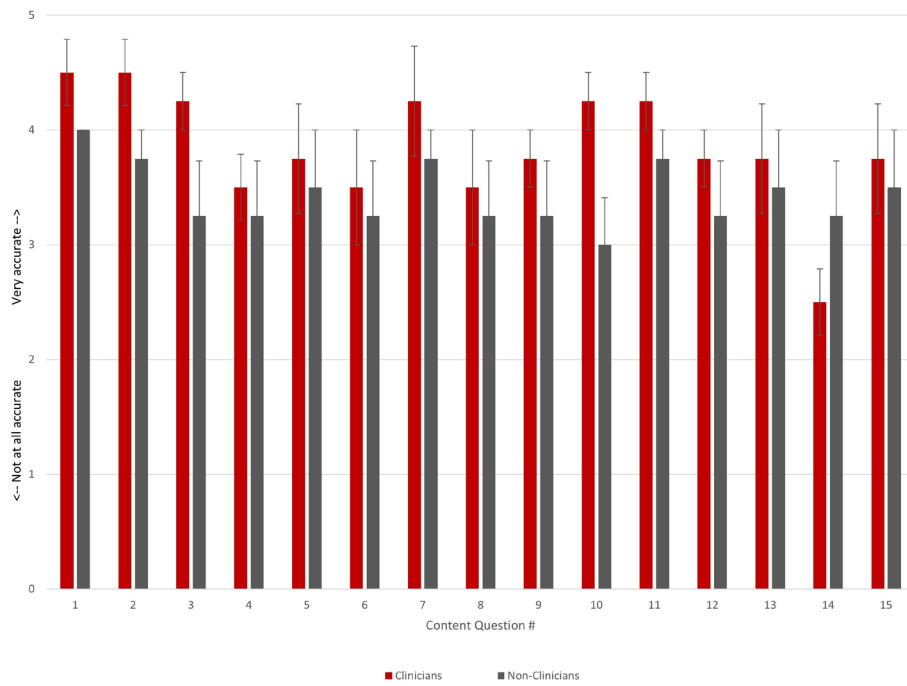
- Tumor size: Larger tumors are associated with a higher risk of relapse or metastasis. Tumors greater than 7 cm in size are considered to be high-risk.
- Tumor grade: The grade of the tumor is a measure of how abnormal the cells appear under a microscope. High-grade tumors are associated with a higher risk of relapse or metastasis.
- Stage of the tumor: The stage of the tumor is a measure of how advanced the cancer is at the time of diagnosis. Patients with advanced stage tumors are at a higher risk of relapse or metastasis.
- Lymph node involvement: The presence of cancer cells in the lymph nodes indicates that the cancer has spread beyond the kidney and is associated with a higher risk of relapse or metastasis.
- Vascular invasion: The presence of cancer cells in blood vessels or the renal vein indicates a higher risk of relapse or metastasis.
- Genetic mutations: Certain genetic mutations, such as mutations in the von Hippel-Lindau (VHL) gene, are associated with a higher risk of relapse or metastasis.
- Prior treatment: Patients who have received prior treatment for ccRCC may be at a higher risk of relapse or metastasis, especially if the treatment was not successful in removing all of the cancer.

It is important to note that these factors are not absolute predictors of relapse or metastasis, and each patient's individual case may vary. Your healthcare provider can help you understand your individual risk factors and can assist in the development of a personalized treatment plan.

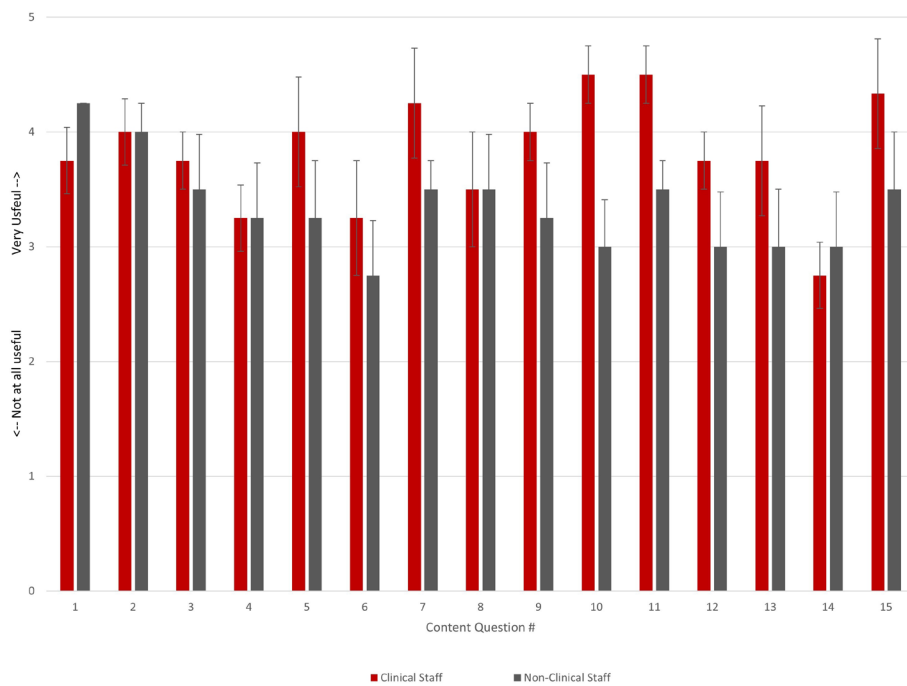
*Post-assessment questions for investigators*

25. How accurate do you think the information provided by ChatGPT is?
- Inaccurate all of the time
  - Inaccurate most of the time
  - Inaccurate at least half of the time
  - Accurate at least half of the time
  - Accurate most of the time
  - Accurate all of the time

26. How much do you trust clinical information provided by ChatGPT?  
Do not trust at all  
Somewhat distrust  
Neutral / neither trust or don't trust  
Somewhat trust  
Trust very much
27. For whom are the type of answers provided by ChatGPT most appropriate? (Rank order if easy, otherwise just choose most appropriate).  
Patients  
Medical students  
Residents  
Attending physicians
28. Do you agree that Chatbots or other automated tools should be used in medical education? (i.e. for medical students or residents)  
Strongly disagree  
Somewhat disagree  
Neutral/neither agree or disagree  
Somewhat agree  
Strongly agree
29. Do you agree that Chatbots or other automated tools should be used in patient education? (i.e. for newly diagnosed patients or those considering certain treatment options)  
Strongly disagree  
Somewhat disagree  
Neutral/neither agree or disagree  
Somewhat agree  
Strongly agree
30. Overall perceptions of ChatGPT and/or answers provided by ChatGPT: \_\_\_\_\_ (free text box).



**Figure S1** Perceptions of the accuracy of ChatGPT responses to each prompt question comparing the answer to appropriate guideline statements from clinical and non-clinical staff. Question number corresponds to each content question and response in Appendix 1: “assessment tool”. Scores of 1–5 were assigned on a Likert score with a score of 5 representing “very accurate”. Error bars represent +/- SEM.



**Figure S2** Perceptions of the usefulness of ChatGPT responses to each prompt question, judged subjectively against the comprehension ability of a typical patient without medical training. Question number corresponds to each content question and response in Appendix 1: “assessment tool”. Scores of 1–5 were assigned on a Likert score with a score of 5 representing “very useful”. Error bars represent +/- SEM.